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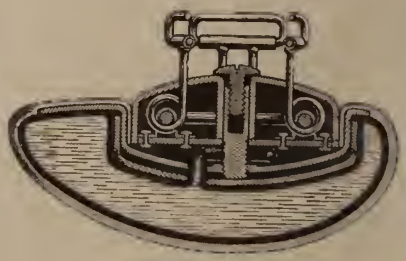

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EDITORIAL DEPARTMENT

THE LEGAL LIABILITY OF HOSPITALS.

JUDGING from an article recently published in a journal devoted to the interests of nurses, there is still much confusion respecting this important question. While it is true that in many states the courts have held that charitable institutions, including hospitals, have a universal immunity against suits for damages, the immunity in the State of New York is only partial. The following memorandum on the subject has been kindly furnished to the *State Journal of Medicine* by very high judicial authority:

"In the case of *Hordern* vs. *Salvation Army*, decided by the Court of Appeals of the State of New York on the 27th of September last, and reported in 199 N. Y. Rep. 233, the doctrine of liability of charitable and religious corporations for negligence of its servants and agents has been settled so far as this State is concerned, with one possible exception. That action was brought to recover for personal injuries received by the plaintiff, a journeyman mechanic, who was engaged in making repairs on a boiler on defendant's premises. The accident occurred through the defective condition of a runway or staging leading to the boiler room. The defendant contended that, being a religious or charitable corporation, it could not be held liable for the torts or negligence of its agents or servants. The Court of Appeals unanimously decided (Chief Judge Cullen writing the opinion) that, in every jurisdiction, immunity to some extent is conceded to corporations of such a character. In some jurisdictions the immunity is universal, and is rested either upon the proposition that the funds of the corporation are the subject of a charitable trust and that to suffer a judgment to be recovered against the corporation and to subject its property to the judgment would be an illegal diversion and waste of the trust estate, or upon the proposition that these institutions are governmental instrumentalities and as such entitled to the same exemption from liability for claims of such a character that the government itself would be. The doctrine of universal immunity has been asserted in Pennsylvania, Maryland, Tennessee, Kentucky, Illinois and Missouri. In several jurisdictions, however, the immunity of charitable corporations for the torts or negligent acts of their employees is a limited one and has been dependent on the relation which the injured person bore to the corporation. Where the person injured was the beneficiary of a charitable trust, as, for instance, a patient receiving treatment in a public hospital, it has been held even in those states recognizing only a partial immunity, that the corporation is not liable for the neglect of its servants. This is the law of the State of New York, and has been held to be the law in New Hampshire, Michigan, and in the federal courts. In the case referred to the Court of Appeals held that as the injured plaintiff was not in any sense a beneficiary of the charitable trust, the defendant was liable precisely the same as any other corporation or individual would be. In New Hampshire, in the case of *Hewett* vs. *Woman's Hospital Aid Association* (73 N. H. 556) a nurse in the employ of the hospital was allowed to recover for failure to warn her against the presence of a contagious disease. In *Bruce* vs. *The Central Methodist Episcopal Church* (147 Mich. 230), the defendant was held liable to a workman employed in painting the church, for defective scaffolding. In *Powers* vs. *The Massachusetts Homœopathic Hospital* (47 Circuit Court of Appeals [U. S.] 122), Judge Lowell, of the United States Circuit

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Court, points out the distinction between the two classes of cases in language which is approved by Chief Judge Cullen in the New York case referred to. Speaking of the exemption of charitable institutions from liability to the recipients of the charity, the learned judge said: 'One who accepts the benefit either of a public or private charity enters into a relation which exempts his benefactor from liability for the negligence of his servants in administering the charity; at any rate, if the benefactor has used due care in selecting those servants. It would be intolerable that a good Samaritan, who takes to his home a wounded stranger for surgical care, should be held personally liable for the negligence of his servant in caring for that stranger. Were the heart and means of that Samaritan so large that he was able, not only to provide for one wounded man, but to establish a hospital for the care of a thousand, it would be no less intolerable that he should be held personally liable for the negligence of his servant in caring for any one of those thousand wounded men. If a suffering man avails himself of their charity he takes the risk of malpractice, if their charitable agents have been carefully selected.' In the Michigan case, Judge Carpenter, in holding that the doctrine of immunity should not be extended as against the claims of persons occupying no such relation to the charitable society, said (and his language is also approved in the Hordern case): 'I can see no ground upon which it may be held that the rights of those who are not beneficiaries of a trust can in any way be affected by the will of its founder.' (The will of its founder was that its funds should be only used for charitable purposes.) 'The rights of such persons are those created by general laws, and the duties of those administering the trust to respect those rights are also created by general laws. The doctrine that the will of an individual shall exempt either persons or property from the operation of general laws is inconsistent with the fundamental idea of government. It permits the will of the subject to nullify the will of the people.'

"There is an apparent conflict in the decisions of the Supreme Court of Massachusetts, but the later cases decided by that court seem to incline to the doctrine of immunity limited to those persons who may be deemed beneficiaries of the trust.

"There is still one question which seems to be open, so far at least, as any decision in this State is concerned, and that is the status of persons visiting charity patients and received through the courtesy of the charitable institution. It is probable that in such a case there would be no greater liability to such persons than to the patients themselves. So far as I am aware, however, that question has not been finally passed upon."

It thus appears that the courts of this State hold that the hospital is immune against damage suits only when brought by its beneficiaries.

Who are the beneficiaries of a hospital? Free patients in the wards would certainly be so considered. Probably so also are patients making partial payments in wards, particularly when the sum paid is small in proportion to the service rendered. What relation, however, does the hospital bear to patients occupying private rooms? Do not such persons have contractual relations with the hospital? If that be the case they would not be considered as beneficiaries, and the hospital would, therefore, have no immunity against damage suits, in the State of New York, brought by such patients, no matter what might be their status in other states. And while there have been no decisions in New York defining the relations between private room patients and the hospital, the writer has been informed that the courts would be likely to hold that the relations were contractual, in which case the institution would be liable for acts of negligence of its servants or agents.

MEDICAL SERVICE CORPORATIONS.

IN a recent issue of the *State Journal of Medicine* reference has been made to the existence of such corporations.

They are illegal and can be promptly put out of business if the medical profession possessed as much *esprit de corps* and business acumen as the lawyers.

Some time ago the Co-operative Law Company, of Brooklyn, was formed "to furnish to its subscribers legal advice and service; to operate in connection with the above a department of law and collections for the use and benefit of the subscribers of the company only and to accomplish these objects said company proposes to employ and maintain a staff of competent attorneys and counselors-at-law to give such advice." At the instance of the Committee on Grievances of the Kings County bar, a previous order of the Appellate Division, Second Department, approving of the existence of said corporation and permitting it to continue its business was vacated in accordance with Chap. 483, Laws of 1909, which made it illegal for any corporation to practice law, to render or furnish legal services or advice, to furnish attorneys or counselors for that purpose, or, to advertise for

or solicit legal business (Penal law, Sec. 280). This statute did not take effect until September, 1909, and the corporation made its first application to the Appellate Division in June of 1909, which accounts for the vacating of the previous order of the court and its denial of approval in November, 1909. The corporation carried the case to the Court of Appeals, which sustained the order of the Appellate Division denying the application for approval. The opinion may be found in N. Y. Rep. Vol. 198, p. 479 *et seq.*

On page 484, Judge Vann writing the opinion says, "A corporation can neither practice law nor hire lawyers to carry on the business of practicing law for it any more than it can practice medicine or dentistry by hiring doctors or dentists to act for it (People vs. Woodbury Dermatological Institute, 192 N. Y., 454; Hannon vs. Siegel-Cooper Co., 167 N. Y., 244, 246)."

All medical service corporations advertising to furnish subscribers with medical attendance are doing so in direct violation of the law as enunciated by the highest court of this State and can be promptly closed up if the county society of the county in which the corporation exists has the slightest conception of its duty to its members and the profession at large and a spark of courage. Any medical service company offering to furnish physicians to subscribers is violating the statute and its officers are guilty of a misdemeanor (N. Y. Rep. Vol. 198, p. 48).

A. T. B.

A GOOD EXAMPLE.

IN the *Journal of the American Medical Association,* December 10th, a writer from Vienna makes the following statement:

The physicians of Prague have, after repeated efforts, succeeded in convincing all members of the local medical association of the necessity for a minimal tariff for professional services. In a memorandum addressed to the general public, the necessity of having a fixed tariff is explained by the frequent disputes between patients and doctors as to fees and by the increase of the general cost of living. The tariff divides the doctors into general practitioners, specialists and consultants. The last-named doctors are not bound to any fixed sum, but they may not go below the usual terms of specialists. The general practitioner must charge at least 2 kronen (40 cents) for a consultation in his office and 3 kronen (60 cents) for a visit in the patient's house. Night visits to be charged for at double rates of the day fee. Specialists have to charge double the rates of the ordinary doctor's fee. This is only the lower margin, as of course no upper limit can be fixed. All consultations by telephone, all written testimonials, all surgical dressings and appliances shall be charged for, the latter according to their actual cost, the former at the rate of 2 kronen each. The fee shall be due when the treatment or attendance on the patient ends. Accounts shall be sent in every quarter of the year; for fees due longer than a year, the doctor shall be entitled to ask interest at the rate of 5 per cent.:

This is convincing testimony of the fact that our colleagues in Europe are beginning to recognize the necessity of some practical form of organization to ameliorate their condition. In many respects they are better off than are the practitioners of the United States. Neither Germany nor Austria have ever conferred state recognition on the Osteopaths and the Optometrists. What competition there is abroad, at least on the Continent, is between members of the regular profession. They have little to fear from the competition of schismatics, quacks or Christian Science pseudo-healers, with one hand grasping Science and Health and the other outstretched for a five dollar bill.

Neither has the cost of living increased with the leaps and bounds which it has taken here. If our colleagues in Prague have found it possible to come to a general agreement such as that described above, it ought to be possible for the profession in this State to agree on some similar action here. Such agreements have been made and kept in several instances. In one community on the south shore of Long Island the physicians met and established a minimum rate which was an advance of about 33 per cent. above that which prevailed before. An advertisement of the change in rates was published in the local papers with the reasons for the change. The physicians of that community have loyally stood by their agreement and by each other, so that they are now reaping a better interest on their educational capital than before. The obvious moral is that what has been found to be feasible in one community of this State ought to be practicable in many others, if not in all. The family grocer recently handed the writer a circular which he had received by mail, in which a certain medical service corporation in the attractive caption "Let Us Pay the Doctor for You" offers "to provide medical attendance for $4.50 a year, no *matter how large your family or how often you consult the physician.*" This includes obstetric cases.

The circular further states that "the company contracts with regular licensed physicians and surgeons in each section of the city to take care of its subscribers, who carry on the work in connection with their regular practice and our subscribers receive exactly the same attention and treatment in every respect."

One naturally inquires what this corporation pays the physicians and surgeons who are the slaves of a self-imposed yoke, if it gets $4.50 per annum per family for furnishing the service, out of which is to come its own profit first.

A. T. B.

Original Articles

DISEASES OF THE STOMACH AND DUODENUM FROM A SURGICAL STANDPOINT.*

By WILLIAM J. MAYO, M.D.,
ROCHESTER, MINNESOTA.

FEW people with chronic disease die from the malady with which they suffer during life. Post-mortem information as to the causes of death has usually disclosed that death was due to secondary complications and terminal infections. The post-mortem did not present a true picture of the disease as it existed during the curable period because it could not show the living pathology.

Post-mortem findings have, however, given us accurate information as regards certain diseases, such as acute perforation of the stomach because the perforation often led directly to the death of the patient; but in chronic gastric diseases, unless they terminate fatally from some acute condition, we are not greatly benefited by post-mortem examinations.

The contributions of surgery to further a better understanding of diseases of the stomach and duodenum, have been of the first importance and have revolutionized our ideas concerning these conditions. This newer knowledge will necessitate a readjustment upon a modern basis of many of our former opinions.

Surgical measures have illuminated pelvic cellulitis and pelvic hematocele, showing them to be tubal infections and extra-uterine pregnancies. Phlegmonous enteritis, obstruction of the bowels, general septic peritonitis, perityphlitis, and a host of other supposed conditions, were proved, by surgical means in the majority of instances to be the result of appendiceal inflammations. In the same manner, diseases of the biliary tract, pancreas, and other obscure corners of the abdomen have had their true pathology brought to light.

The stomach has been credited with a host of diseases which it never possessed and has received an amount of treatment for supposititious conditions that is of little credit to the medical profession. These mistakes have been due, mainly, to certain fundamental misconceptions as to the function of the stomach, its relation to diseases in general and especially to those of the digestive tract.

In this respect the stomach resembles the urinary bladder, the supposed diseases of which have been so greatly reduced since the cystoscope, ureteral catheter, x-ray and other means of direct inspection have come into general use. Tuberculosis of the kidney masqueraded as intractable cystitis, the relatively unimportant bladder involvement giving rise to nearly all of the symptoms and securing for the patient a large amount of unnecessary treatment.

Why was the male so frequently believed to have bladder disease? Because of enlarged prostate, posterior urethritis and kindred diseases. When stripped of the symptoms it is not responsible for, but which nevertheless give rise to complaint, the bladder itself will seldom be found to be diseased. To a great extent this is true as regards the stomach, which is held responsible for more "complaints" than any other organ in the body, and yet it is not often the real source of the symptoms, but rather the mouthpiece speaking for a host of other organs.

The stomach has several important functions, the first and most important is that of storage. This organ acts like a magazine of a coal-stove, feeding its contents slowly into the intestinal tract for absorption and assimilation. The food, which is more or less mixed with the ptyalin in the process of mastication, lies in the fundus of the stomach in a globular mass from twenty to thirty minutes. The gastric secretions are largely formed in the pyloric end and are stimulated into activity. The mass gradually becomes mixed, and passes, a portion at a time, into the pyloric antrum where it is ground up and ejected through the pylorus.

When a certain degree of acidity exists in the pyloric antrum, the pylorus opens and the chyme passes into the duodenum, and when a certain degree of acidity takes place in the duodenum the pylorus automatically closes. It should not be forgotten that the duodenum has the paramount right over the stomach in the control of the pyloric apparatus, and that this right to control is not confined to the duodenum, but is possessed to some extent by all the derivatives of the midgut from the common duct to the splenic flexure of the colon and accounts for gastric disturbances in the presence of intestinal disease.

The mechanical effect of the action of the stomach upon the food-mass is much more important than the chemical effect. The gastric juices, which consist of a dilute solution of hydrochloric acid, pepsin, and certain other secretions aided by the gastric musculature, breaks the food-mass and forms it into a homogeneous whole. Motility is the most important gastric function and anything that interferes with this function causes marked disturbances of the stomach. We have paid relatively too much attention in the past to the chemistry of the digestive process and too little to the more important function of motility.

* Read before the Medical Society of the County of Kings, Brooklyn, N. Y., October 18, 1910.

In over three hundred gastrectomies in which the entire pyloric end of the stomach was removed, necessarily reducing subsequent secretions of hydrochloric acid and pepsin to a minimum, we have never had any complaint of gastric distress from the patient after the operation if there was unobstructed opening for the passage onward of the food. This is also true of the relief afforded patients with obstruction when gastrojejunostomy is performed, although the continuous presence of alkaline-biliary and pancreatic secretions following operation must act to neutralize the gastric secretions and interfere with all the gastric functions excepting that of motility.

The stomach may be described, anatomically, as a muscular organ with temporary storage function which enables its possessor to rapidly place in its cavity a considerable quantity of food products for the slower process of digestion and absorption, rendering continuous feeding unnecessary.

The stomach has two well defined compartments. First, the fundus into which the food is immediately received and temporarily contained. This part of the stomach does not have a great amount of secretion, and is more or less under the control of the cerebro-spinal nervous system, that is, we are conscious to a considerable extent of the condition of its cavity by the feeling of repletion after the full meal, hunger, etc. Second, the pyloric antrum, where the secretions are most active and the muscular action most powerful. Of this part of the stomach we have comparatively little knowledge or conscious control. In many of the lower animals a sphincter exists between these two cavities which is called the antral sphincter. If this sphincter ever existed in man it has now disappeared, although physiological contraction takes place at that point.

The first four inches of the duodenum, the part lying proximal to the common duct, originates, like the stomach, from the foregut, and its functions and diseases are those of the stomach rather than the intestine, although, morphologically, it resembles the small intestine.

The control of the intestinal tract which includes the antrum of the stomach, is primitive, and is obtained by means of internal secretions. This control existed before the cerebro-spinal nervous system had developed and continues to have paramount influence over the digestive and assimilative functions. This method of control acts by chemical stimulation through the blood-stream and also through the sympathetic ganglia. It may be compared to the hand and fingers which play upon the piano; the internal secretions being the active agents and the sympathetic nervous system the co-ordinating body. The plexuses of Meissner and Auerbach, which are derived from the cerebro-spinal as well as the sympathetic nervous system, have comparatively little influence over digestion and assimilation. The fundus of the stomach was a late development and is consequently more or less under the control of the cerebro-spinal nervous system; it follows, therefore, that the stomach is the place where derangements of the entire intestinal tract between the beginning of the antrum and the splenic flexure may reach the consciousness of the individual. This is the reason why strangulated hernia, appendicitis, gall-stones, intestinal tumors, intussusception, etc., cause nausea and vomiting and pain in the stomach; the distress arising from nature's endeavor to secure rest by means of the so-called "pyloro-spasm," which acts to prevent food from passing out of the stomach. If food remains too long in the stomach it interferes both with the storage and digestive functions; the secretions become changed and a chain of symptoms are set up which are spoken of as dyspepsia, and indigestion. If we place too great reliance upon laboratory findings we may be influenced to consider these purely secondary conditions as actual diseases of the stomach, and to name them in accordance with some prominent symptom. This has been done over and over again.

Looked at pictorially, stomach disturbances may be divided into four groups: First, where the stomach is disturbed by general conditions and where, for a time, the gastric distress obscures the actual disease. We have all the humiliation of treating the patient for stomach trouble who was suffering from cardiac insufficiency or the gastric manifestations of arteriosclerosis; of giving pepsin and hydrochloric acid to a patient for supposed dyspepsia who had chronic nephritis; of making a diagnosis of gastric ulcer because of gastric hemorrhage the result of cirrhosis of the liver, and of treating the stomach because of the vomiting of pregnancy. Not a few patients with gastric crisis due to locomoter ataxia have been subjected to gastrojejunostomy for supposed gastric ulcer. These are a few examples of mistaken diagnosis due to the effect of systemic disturbances upon the gastric function.

Second, gastric disturbances due to a group of diseases more or less intimately associated, for example, atonic dyspepsia, prolapse and gastric neurosis. Atonic dilatation gives rise to a splashy stomach, the abdominal walls are flaccid, and the abdominal aorta may be so plainly felt that the unwary are led to diagnosis of aneurism.

Prolapse of the stomach is, in the majority of cases, a part of Glenard's disease, and although bismuth and x-ray photographs show a marked downward displacement, there is usually very little mechanical interference with the progress of food.

Gastric neurosis is an exceedingly common condition, and two of the many types are worthy

of mention: The female from 17 to 24 years of age, who vomits as soon as food is taken into the stomach, and the male of middle age with constant gastric complaint of the hypochondriac type. Atonic dilatation and prolapse are seldom benefited by operation, and surgery is much too serious an agent to be used as a means of psychotherapeutics in gastric neurosis.

Third, the disturbances of the stomach due to appendicitis, gall-stones, intestinal tumor, intussusception, intestinal tuberculosis, etc. These have already been discussed. As a rule, surgery must be invoked to secure relief in this class of cases.

Fourth, a small group of cases in which the stomach is actually involved in diseases that can be demonstrated surgically, of which ulcer and cancer are the most frequent examples.

Mistakes in diagnosis are more often the result of a lack of examination than a lack of knowledge. The first step in the diagnosis of supposed disease of the stomach should be a general physical examination, in order to eliminate causes of gastric distress which originate in diseases outside of the digestive tract. We should then eliminate the non-surgical diseases, *i. e.,* atonic dilatation, prolapse and gastric neurosis, etc. Next in order come diseases of the digestive tract outside of the stomach which may give rise to the symptoms. All of these possible conditions must be eliminated by careful and methodical examination before taking up the question of diseases which can be rightfully attributed to the stomach.

When Kussmaul adapted the stomach tube from the stomach pump in 1867, and applied it to the diagnosis and treatment of gastric disorders, a great step was made in advance. This device imparted some knowledge of diseased processes and changed functions in the interior of the stomach, as evidenced by secretions, food and other material removed by the stomach tube. However, since the days of Kussmaul and his collaborators, the amount of information gained in this way has been small. A great amount of labor has been expended in examining the gastric secretions, testmeals, etc. The results have often been disproportionate to the amount of effort, and too frequently have been accepted at a fictitious value. In our disappointment over the failure of the laboratory to establish definite diagnoses in many conditions of the stomach, we are going too far in our criticisms, moreover, the laboratories have not failed, but we have failed to rightly interpret the laboratory findings. It is only in contracting actual conditions found through surgical inspection with that of laboratory and other diagnostic findings that we are enabled to check up and obtain a proper valuation of the various signs and symptoms of gastric disease.

In showing the size, shape and position of the stomach, the x-ray has been of some service. The gastroscope has not yet been perfected so that it can be put to practical use, and the diaphanoscope gives unimportant results.

In making a diagnosis of the stomach, the history of the patient is of the first importance, particularly in relation to early symptoms when characteristics of disease are not obscured by secondary complications. The relation of food to the production of the symptoms should be carefully noted after the history, inspection, palpation and accurate location of points of pain and tenderness. Next in importance is the stomach tube. (a) To draw off the stomach contents; a careful gross examination should be made of the material. In ulcer of the stomach the organ often contains a considerable quantity of sour, pungent fluids, greatly in contrast to the sickish coffee-ground liquids so often found in cancer. If there is obstruction, the contents will contain food remnants which will be readily detected macroscopically. (b) Distention of the stomach with air by means of the Davidson syringe, in order that its shape, outline and position may be demonstrated. At times a tumor will be brought into a situation where it can be palpated, when it might not otherwise be discovered. (c) Laboratory examination of the stomach contents. A determination of the amount of acids has considerable value, but only when taken in conjunction with clinical findings. High acids with hypersecretion gives testimony in favor of benign disease, but the converse is less true as regards malignancy. Occasionally a piece of tissue may be obtained for microscopical examination.

Free or occult blood either in the gastric contents or in the stool, is an aid in differentiation, but of less importance than is popularly believed.

Chronic ulcer of the stomach and duodenum.—Twenty-five years ago, when I was a medical student, ulcer of the stomach was considered an exceedingly common condition and one easily diagnosticated. Ulcer of the duodenum, on the other hand, was believed to be exceedingly rare and difficult to diagnosticate. Ulcer of the stomach was supposed to occur in the female in more than 60 per cent. of cases, and in the male less than 40 per cent. These ulcers were usually thought to be multiple. The main reliance in diagnosis was the fact that the patient took food and had pain which was relieved when the stomach was empty. With this condition it was believed that the patient had ulcer.

What has surgery demonstrated to be the actual facts? First, that in at least 75 per cent. of the cases the ulcer is not in the stomach, but in the duodenum. As to the sex, 80 per cent. of the patients upon whom we operate for ulcer are males. Multiple ulcer exists in less than 8 per cent.

In observing the relation which food has to

ulcer, we find that previous to the stage of obstruction, food gives relief to pain, which is most intense when the stomach is empty. The patient takes food, milk or other diluent, or bicarbonate of soda to get relief by neutralization of the retained acid secretions. The patient with other characteristic stomach disturbances who wakes up at a certain hour of the night with bitter, acid, sour feeling in the stomach and raises up a mouthful or two of this burning secretion, or is compelled to take food or drink for acidity, in the majority of instances will be found to have ulcer.

It is evident that a large number of supposed ulcers in the past were in the nature of disturbances classed under the head of, (1) general diseases affecting the stomach, (2) atonic dilatation, prolapse and *gastric neurosis,* (3) disturbances of the stomach due to diseases of the intestinal tract.

One of the peculiar features of chronic ulcers of the stomach and duodenum is the deceptive improvement which is so often mistaken for cure, and which has apparently little relation to the actual condition of the ulcer itself. After serious symptoms lasting for some weeks, the patient may have complete relief for weeks or months, and yet if operated upon during the quiescent period the ulcer will almost regularly be found open and unhealed. The supposed cures of chronic ulcers of the stomach and duodenum may be compared to the supposed cures following each attack of recurring appendicitis or gall-stone disease.

What shall we do with chronic calloused ulcers of the stomach and duodenum? I believe that the unprejudiced observer must come to the conclusion that operative relief is indicated after a reasonable amount of medical treatment has failed to give a permanent cure. Calloused ulcer of the stomach should if possible, be excised on account of the serious cancer liability, and if necessary for drainage a gastrojejunostomy should be made in addition. Ulcers of the duodenum do not often become malignant and gastrojejunostomy is a most reliable procedure in these cases.

Cancer of the stomach is the most common of all cancers in the human body, as no less than 30 per cent. occur in the stomach. They are amenable to surgical treatment with good prospects of cure if patients can be submitted to operative treatment sufficiently early in their development. Twenty per cent. of our cases of cancer of the stomach submitted to radical operation more than three years ago, are alive and well, some of them have been well for more than nine years. Cancer of the stomach does not produce symptoms of cancer during the curable period, and it is only when the situation of the growth introduces mechanical elements which interfere with the progress of food in the stomach, or when a tumor can be felt, or some other fortuitous circumstance occurs, that we are able to make a diagnosis in time for successful operative procedures. It is in cancer of the stomach that the prolonged laboratory investigation has been productive of so much harm—*a scientific but deadly delay.*

I do not believe the general position can be assailed which assumes that all cases in which there is mechanical interference to the progress of food, or a demonstrable tumor, should receive surgical consideration. A suspicion that there is cancer of the stomach should above all things lead to surgical consultation. These cases have no more business in the medical wards, than has cancer of the lip, breast or uterus.

A high degree of technical skill is not required in order to palpate a gastric tumor, or to make a diagnosis of mechanical obstruction. If the patient is told to take with his evening meal some soup containing half-cooked rice and a penny's worth of raisins, remnants of this food will be found in the stomach the next morning, if obstruction exists.

Modern surgical methods have developed a safe technic for the radical removal of gastric cancers with good prospects of cure. It only remains for the profession to recognize the facts, and *give the patient a chance.*

IS THERE SUCH A DISEASE AS NEURASTHENIA? A DISCUSSION AND CLASSIFICATION OF THE MANY CONDITIONS THAT APPEAR TO BE GROUPED UNDER THAT HEAD.*

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TO write of something and at the same time claim it does not exist, may seem venturesome—barring one has the imagination of a Tennyson. In this case the things do exist, the question hinging on their true character. It is not, however, of matters of pure theory that I am to speak, but of certain simple truths that practice has taught.

You can read descriptions of neurasthenia in the journals, study the special pleaders, take up individual cases, speculate on the subject as you will, but what is the fact? If, without prejudice, we note, day after day, month after month, and year after year, the findings in this never-ending series, what is the final lesson that actual practice teaches? For, as we all know, in medicine it is the real facts that decide and not brilliancy nor a priori reasoning.

Hospital work, it may be remarked in passing, gives little experience in this line of cases. In the large neurological service at the Kings County Hospital they are a rarity, and the like

* From a paper read at the Lake Keuka Medical and Surgical Association, July 21, 1910.

holds in only less degree at other institutions. Medico-legal work not only deals almost exclusively with hysteria (so far as neuroses are concerned), but also hardly affords the best opportunity for finer scientific study. Dispensary work on the contrary does include many cases that might come up for consideration here. However, private practice after all, provides the largest source of this class of cases, and also affords the opportunities for their careful study.

If anyone speaks of organic troubles, as nephritis or brain tumor; or of neuroses, like chorea or paranoia, you immediately think of predicable symptoms that suffice for diagnosis. But for neurasthenia this does not hold. Here we find a conglomerate of possible and indefinite signs that appear to be just a left-over job-lot without clear beginning or ending and with no particular relevancy or connection. To unite these, in their nature entirely dissimilar cases, is without warrant. Consequently, even in theory, if we apply any definite standards of nosology, the whole presumption of any disease of the kind termed neurasthenia falls to pieces. It has been but the general dump-heap for the whole range of nervous and allied states and manifestations not otherwise provided for, an unclaimed parcels department.

Since neurasthenia was first outlined, many things have been cut clean out of its case make-up. We need but mention such typically neurasthenic conditions as early forms of myasthenia, tabes, arteriosclerosis, lymphatism, parathyroidism, aprosexia, etc. And besides these the general advance of medical knowledge has taken away much at least of its remaining groundwork. Even though there were still a nucleus left of the mass of cases once so figured, the fact that whole groups have been taken entirely away suggests strongly that whatever basis nominally remains is bound to be adjudged something else also. And as to that matter the only uncertain cases remaining are like what we always find: mixed forms, cases that require a long time to work out, and the inevitable small residium that is bound to be left unsettled.

How about the scientific honor of our country, it may be asked, if the American disease is æroaded to the mists? For the claim of any special nervousness in Americans we have to thank mostly the newspapers and the natural thrust of foreigners. Circumstances of living are not worse but better here than elsewhere. Observation by actual living on the continent shows neuroses galore. And I know from personal conversations that Beard eventually doubted any predominance of America in this line. Our danger lies in the continual admission now of Europe's feeblings.

Many of the best neurologists, so far as I hear them express conclusions, do not now recognize such a disease. Since your program was printed, Dana is reported as saying there is no such thing as neurasthenia. And I think that practitioners generally are much less content with the diagnosis than years ago. The passing of the term brings no great shock anywhere. Personally I have hardly made use of the diagnosis ten times in as many years, and on those rare occasions, with the consciousness that it was a subterfuge of incomplete knowledge.

We may have to keep it awhile as a popular expression, much as we sometimes drop into terms like "fits," or "a nervous break-down," or "brain fag," or simply the word "sickness." But, as in the case of these words, the physician can put no particular interpretation or scientific value on it. Either it must thus be considered, or its application must be narrowed down to a particular and definite type of trouble. In the latter event, however, it is far safer to devise some new term than reclaim one with its inevitable ambiguity. The alternate plan of calling all these things the neurasthenias might preserve the face, but because of lack of unity would be equally unscientific.

Of course, we may all, at times, make use of the adjective neurasthenic. Habit, the convenience of a general and indefinite term, and the needs or training of our auditors, render it occasionally customary if not permissible.

But, it may be asked, what is the nature of all these cases? What shall be done with them? What diagnosis can be made? If we discard neurasthenia, is it possible to make a better place for them elsewhere?

The criticism that neurasthenia lacks entity is not entirely new. The need at present is some plan for the more correct classification of cases so included. I may not be able to meet this need fully, but it is possible to present a schedule of most of the important types that appear to be grouped under this head. There may be still other cases or forms. The main thing is some real and more or less adequate framework. Since nothing of the sort appears to be available, the following draft* is offered as an initial in this direction:

The Schedule as a Whole.

This schedule covers at least the great bulk of conditions or cases that might claim to be neurasthenia. It is not based on any immediate study of the literature, but, as stated, on personal observation. It also brings up points that are somewhat novel.

All cases of this nature are taken in, and not simply selected ones. This should meet any suggestion that the schedule refers only to organic or other limited class of cases.

Exactly the opposite objection may be urged, viz., that no discrimination has been exercised and that all sorts of genuine and mongrel cases have been included in the basal survey.

* For draft see next page.

SCHEDULE OF CONDITIONS USUALLY BUNCHED AS NEURASTHENIA.

I. DEFECTIVE STATES (Hereditary or acquired)	1. Status Lymphaticus. 2. Inadequate Physical Capital. 3. Constitutional Inferiority. 4. Parvicapitism (Subevolution). 5. Anaemia.
II. TOXÆMIAS (Exogenous and endogenous toxic states)	1. Excess Habits (rum, tobacco, tea, coffee and drugs). 2. Lithæmia; Over-Feeding; Uric Acid. 3. Hyper- and Hypo-Thyroidism (or any error of Internal Secretions). 4. Organic (usually surgical) Affections of the Viscera. 5. Other Autotoxæmias.
III. MENTAL or PSYCHOGENIC STATES	1. Hysteria (incl. so-called Traumatic Neurasthenia). 2. Hypochondria. 3. Melancholia. 4. Phobias and Philias. 5. Tiqueurs.
IV. SEXUAL SOURCES	1. Spermatorrrhœa. 2. Sexual Excesses. 3. Blighted Sexuality. 4. Hypertrophy of veru montanum, Irritability of neck of bladder, etc. 5. Withdrawal, Coitus interruptus, etc.
V. VARIORUM	1. Circulatory Troubles (Arteriosclerosis, Cardiac Weakness, Abnormally small Heart and Aorta, Vasomotor Instability, etc.). 2. Visual Troubles. 3. Naso-pharyngeal Block. 4. Short Sleep, Poor Food, Exposures, etc. 5. Incipient Organic Disease (as e. g., Tuberculosis, Tabes, Myasthenia gravis, Brain Tumor, Spondylolisthesis, Progressive Muscular Atrophy, Neuritis, etc.).

To some extent this must be true, the more so as definite diagnostic lines are wanting. If this is a fault it is inevitable and harmless—and yet nothing entirely foreign to the supposed scope of neurasthenia has been retained. Of course only a variable and sometimes small proportion of all the cases under these headings would usually be classed neurasthenia.

If you quote some definition or description of neurasthenia and ask where this, that or the other form, or any group of symptoms belongs in the schedule, I very likely could not tell. But, take any number of cases in sequence from various physicians, examine and sift them properly, and practically all will find an appropriate place in the schedule.

One fault, like many medical classifications, lies in the mixing up of cause and effect in the same list. The first group, e. g., represents favoring conditions quite as much as resulting clinical forms.

So much for criticism!

No such schedule can pretend to be absolutely complete. To make it so you must needs include about everything in the category,—for, one time and another, and at some stage or in some degree, any disorder may have a neurasthenic phase. The schedule is merely offered as a convenient suggestive and approximate presentation of the conditions that most often come in question here. Even these you can reclass according to your fancy or reasoning. And new developments that arise can be introduced as modifications.

It will now be permissible to take up seriatim the items of the schedule, or so far as time allows, touch on selected points with free-hand comments. A fuller presentation of this side would be in order if space as well permitted.

I. *Defective States.*—In a sense it may be said that every disease is or is not due to some defect; but there are certain states in which this is the primary and characteristic feature.

Lymphatism illustrates another point. It may prove to be due to disordered internal secretions, but it is more assuredly a developmental defect.

1. Whilst the subject of lymphatism (status lymphaticus, s. thymicus) has been treated of late years at much length, so many young decadents and neurotics show evidence of this as to justify remark. They constitute a type perhaps insufficiently recognized. Although no one feature appears to be present in all cases the following are common characteristics: Adenoids, large tonsils, nasal obstruction; such sequels as mouth breathing (in sleep, less often diurnal), snoring, dry mouth at waking, eneuresis in younger years; tendency to colds, tonsilitis and febrile attacks; winging scapula, pouting abdomen (upper and middle thirds), bad chest forms (as a backward curving of

upper dorsal spine, and narrowing antero-posteriorly of upper chest); such ear deformities as projecting lobes and bobbed lobules. The combination so far might largely be attributed to obstruction in the upper respiratory tract, except that this cause is not always present. In younger years also the cardinal evidences of a large thymus are often found, viz., 1. Dullness (area of in thymic region); 2. Veins over upper chest wall, dilating on sharp exercise and vice versa; 3. Manubrial prominence (possibly more when the condition has persisted long in the young); 4. Palpable projection of thymus upwards at the sternal notch (rare); 5. X-ray proof; 6. Enlarged lymph glands and other evidence of status lymphaticus.

The above picture is not given as a complete one of this status, but only as an outline of that form which is often sent in as neurasthenia. Whether the large number of migrants in my practice make this exceptional does not alter the main fact.

These factors are of most neurotic influence in youth; still some traces remain long. With this type is often associated, one case with another, a great variety of neuroses. Stammering for example appears in many cases to be associated at the start with large thymus if not caused directly thereby. The frequency of these factors in the presumed neurasthenic, or traces of their earlier impress, is the point here.

2. In the business of living, a certain amount of reserve, of spare physical capital, is as much an advantage not to say necessity as in other lines. It has even been shown experimentally that the spare person requires more to preserve a nutritional balance than do those with better stocked tissues.

Pronounced cases of this kind (inadequate physical capital) are more often seen in women. In some there has been a deficient start in the early years. Or, there is a degree of this combined with later factors. Too strenuous living, child-bearing, and deprivations may bring the depletion.

Eating is largely a matter of habit, and this, as we often see can be cultivated and developed to an unnecessary degree. Some women on the contrary take the opposite course,—perhaps fear lest they become stout, or practice a foolish economy, or get a fixed idea they cannot eat, or become imbued with newspaper theories of diet, or try what might suffice for some idler. With the best of will they then attempt to lead a life that is only possible to the robust. Result, in common parlance, neurasthenia.

With due care, and where circumstances permit the carrying out of a suitable regime, these cases are in the curable class,—and may subsequently even follow arduous lives. Appetizers, some suasion, a progressive system of feeding, and a not too exacting rest cure are in order. A series of such cases with happy terminations might be given. When, however, we find a leaky heart, or the head measures small, or many stigmata, or other evidence of organic imperfection, we should not expect too much.

3. "Constitutional inferiority is a lack of normal brain-development because of some constitutional defect. Physical stigmata are usually apparent" (Elliott). Here fall the degenerate and most of the feeble-minded; and it is not always easy to say where this stops and dementia precox begins.

It is presumably irremediable, otherwise it would not be constitutional. At best such persons can adapt their lives to their limits, and slip along quietly or unnoticed. Any strain or test shows them up in some class, often enough the neurasthenic.

Your president kindly called my attention to this type as an eligible division for the schedule. While entitled to a place, its special consideration can be left to the institutional men.

4. The term parvicapitism is a proposed designation for a condition that I find common in this class of cases and perhaps also in dementia precox, while not often so in hysteria and still less in manic-depressive trouble (in which cases the opposite tends to prevail). On the anatomic side it might be compared to a slight microcephaly, although not quite the same. And it differs still more clinically. The so-called neurasthenic with this head-form is often free from other stigmata.

The usual method of determining the circumference of the head is to take it around the base. For purely anatomical purposes, as the most stable plane for mensuration, this may be the only one universally practicable.

But, when we want, not so much to correctly consider the anatomy of the skull as to estimate the volume of brain-tissue, we should take some account of the portion anteriorly above this level. Consequently, of late years, to determine the maximum circumference of the skull, I have made it a practice to pass the tape around the occipital protuberance, the parietes at the widest part and the greatest prominence of the frontal bosses. This plane it is practically always possible to determine with accuracy, except in cases where the cranium is so badly formed as to settle our quest without measurements.

The tautness with which the tape is drawn and the amount of hair included affect the result some and detract from the mathematical exactness of the determination. But the individual worker, after acquiring a fair degree of experience, can thus reach comparative results that are applicable in his own cases. Of course, the thickness of the skull and such factors may vitiate conclusions in special cases.

Average males run about 56.0 to 56.5, or say

for ample range-limit 55.5 to 57.0 cm. In women 54.5 to 55.0 is normal, or say 54.0 to 55.5. When the measure in either case varies from these standards, it is to that extent in evidence. Many of these cases are from one to two or three centimeters under the more limited standards given.

Another useful item is the cephalic index, determined by dividing the transverse by the antero-posterior diameter of the skull, the antero-posterior being taken here in the same plane from the most prominent mid-frontal point to the occipital protuberance. Investigators speak in favor of the brachycephalic or broad-headed, and this has an easy justification anatomically. For, with a given maximum circumference of the head the greater the cephalic index the more the volume of the brain. One limit to this conclusion is that when the index goes beyond say 83.0 it begins to approach distinct abnormality, and thus on other grounds rules this out as a desirable head-form. The best range of index is from 78 to 83. Abnormality of the index of itself belongs elsewhere and is here considered only so far as it concerns encranial space.

With these two matters determined, viz., the maximum circumference and the cephalic index, we are in position to estimate comparatively the volume of the subject's brain. A slight diminution of the circumference may be balanced up by a large index, or vice versa. But if both are low, or one is low and not balanced by the other, then we must conclude that the volume is below standard. And, other things being equal, the person with the larger and more normal brain-endowment possesses the greater amount of stamina, reserve power and safe mentality. A person with the average amount stands up under work and strain where the underling breaks.

If this peculiarity were constant in so-called neurasthenia it might constitute a justification for retention of the name and even be made a basis of classification. But, however common, there are abundant exceptions all along the line, and neither is it in itself so much a disease as a favoring condition. And it should be called by something more indicative than neurasthenia.

In some of these cases we find, on the contrary, a large head or one within the normal. Then other factors have to be sought.

This anatomic type of brain-inadequacy proves to be specially common in the neurotic individuals amongst certain classes of present-day immigrants. The fact suggests an additional control which might advantageously be applied in deciding on the admissibility of new-comers.

5. That anemia can produce a variety of nervous manifestations and even organic nervous disease is well known. The severer forms are not likely to be overlooked. While the lighter degrees, though far from an indifferent matter, are ignored by many if not most clinicians. There are sensitive individuals who react in many obscure ways to these limited reductions. Easy tire, circulatory irritability, headache, increased reflexes, moods and less exact complaints occur readily, and are thought to spell neurasthenia. They should warn us to check some drain, correct a toxemia, or relieve in other way.

This brings up an important feature in the case of various hereditaries and weaklings. When starting nerve-work years ago I supposed that any hereditary element in a nervous case made the outlook hopeless. It was compulsory, however, to make some effort for all. And to my great astonishment, it soon transpired that many with an hereditary burden yielded better to treatment than those with wholly acquired conditions. And this startling outcome I have had occasion to verify many times since. It is a most redeeming feature of neurologic practice.

A plausible explanation can be briefly suggested. Normal persons only acquire a disorder, especially of the nature of a neurosis, when so long and so severely subjected to a noxious influence as to impress deeply or almost "break" the sufferer. A weakling from heredity, on the contrary, has scant resistance, and yields to lesser impressions and changes. Consequently the former recovers if at all only after radical relief, while with the latter the correction of some nominal matter is all that is necessary.

This principle applies in the anemias. Most practitioners have to do with average persons and the average person stands some limitation of hemoglobin without a reaction. On the other hand, a person with bad heredity may wilt under a deficiency of only 10 to 20 per cent. as a part or whole cause. Consequently to me an anemia of limited grade has come to have far more significance than to men in other lines.

II. *Toxemias.*—This division hardly needs discussion in detail. The longer one practices the more one is likely to appreciate the importance of these causes.

1 and 2. *Digestive Autotoxemias.*—Colleagues engaged in stomach work report that a very considerable share of their clientele is made up of cases in which it is a close question whether the nervous condition (referred to by them as neurasthenia) or the digestive mal-activity is the essential or primary. In many the intestinal neuroses, fermentation, faulty metabolism, etc., have to be met by agencies having some regard to the nervous phenomena. It is beyond my purpose, or for that matter, power, to solve these puzzles, or do more than, as lawyers say, mark them for identification. In practice, however, they are now handed over to the gastrologist, and are out of the neurasthenia fold.

Heredity from habitism is worth a word. The children of heavy alcoholics are not so often idiotic as has been imagined. But on the other hand they sometimes constitute a special chronic and troublesome form of what might be termed

melancholasthenia. These are mostly classed as neurasthenics, but their tendency to sombre feelings is so pronounced as to place them in another column. Children born to morphinists or other habitues are also neurotics as a rule. Certain children of alcoholics have other peculiarities—and for that matter much of this heredity is not of the alcoholism or other ism at all, but of the condition that made the parent an habitue.

What the underlying fault is in these alcoheredities does not appear to have been determined. Some cases incline to duodenal and biliary congestions, and hence imperfection of hepatic functions has long been suspected.

A Liver Sign in Many Cases of this Class.—The plethoric bellied, the chronically overgorged, the rum-fed, and allied quasi-neurasthenics frequently exhibit a distinctive change in the upper line of the liver dulness. Many plain gourmands, sufferers from alcoholic neuritis, and those generally who take in more than they fully consume show the like—although not all in any of these classes are included; perhaps some have not indulged sufficiently, or on the other hand, they may have traversed this part of their journey and already reached a shrinkage, or be immunes.

The excessive use of anything, even stimulants, is injurious. This statement has no reference to the anti-alcohol hysteria that of late has so largely pervaded the medical press. And it may be well at this juncture to remember that nervous sequelæ only follow the most inordinate and excessive use of alcohol, and then in but a proportion of cases. On the contrary, nearly all our most gifted and prominent men, from Franklin down, have either been themselves users of alcoholics or were the immediate descendants of those who did make use of them and in a liberal manner. If there were anything intrinsically injurious in alcohol itself then this could not be.

Descriptions of liver hypertrophy mostly tell of its extension downwards. In the present form it is directly the opposite; there is a *doming* of the liver in front. The apex is about at the nipple or oftener just outside the nipple line. In the fullest type it may go a finger's breadth above the nipple level. Outwards towards the axillary line the dulness drops away rapidly to the normal. Of course, the sounding should be done with the patient standing or as near that as the condition permits.

Originally this was observed in alcoholics in a very febrile condition and where the dulness was so extensive as to raise a surmise that pneumonia was in play. Attention to a few cases soon taught that this belonged to the liver. And in the course of years its wider significance has become apparent.

After one of these cases has been appropriately cleaned out and put on a regimen, it is sometimes advantageous to make use of the gymnastic plan of abdominal disengorgement recommended by Abrams of San Francisco for neurasthenics. The gradual reduction of this dome gives a criterion of the progress of the case.

3. The subject of internal secretions has been treated by the writer at sufficient length in this journal (1909, Sept.).

It is *e. g.*, quite the thing for incipient and slight exophthalmic cases to come in as neurasthenia. Some of these forms are touched upon under other headings.

4. This might by itself be extended into a prolific division. It is also the one where the most errors are committed both ways. The gynecologist and the abdominal surgeon are often "up against it." I suspect that the neurologist is sometimes unable to reach a perfect diagnosis in such cases, and the surgeon alone I know cannot. By following the good old rule of conferring or consulting together most of these cases can be worked out clinically.

Dr. P. M. Pilcher gives me the following: A girl of 21 years had long suffered from pain here and there about all parts of the body, though more constantly in the right flank. The many who had seen her are said to have all made the diagnosis of neurasthenia or its equivalent. Following a surgical rule he made an operative exploration of the abdomen. Found—chronic appendicitis and perityphlitis, plus a large gallstone with choleoptosis and cholecystitis.

Longyear's new work, "Nephrocoloptosis," tells of neurasthenia from like causes.

Quite separate from this are cases related by surgical friends where so-called neurasthenia follows an operation, an anæsthetic, or great shock. Such cases certainly have a real basis.

Dr. McNaughton calls my attention to an observation from his gynecological work, which has interest here. He hits off the condition by characterizing it as "Inadequate Firepot." Its main features are abnormally small intestines, stomach, and even uterus in women who externally present a fine well-rounded physique. It is not due to pressure, but is probably congenital. He has found it a number of times in operative work, and then it is so striking as to be noted by the casual observer. It is a close parallel to the cases of small circulatory apparatus. Whether the like occurs in the male he has not had the opportunity to determine. Such subjects easily develop neuroses.

III. *Mental or Psychogenic States.*—Many of the psychoses in their early course are naturally enough held to be only neurasthenia.

1. The knowledge that suggested conditions belong to hysteria has contributed greatly to clarity in diagnosis.

Damage suit cases, in which neurasthenia is so largely asserted, are almost always hysterical. After a fair share of experience in these cases and for many years, I can but conclude that practically there is no such thing as traumatic

neurasthenia; the term should be relegated to the same museum of antiques as railway spine. The manifestations so fondly grouped under that head are for the most part psychic or hysterical (originating in fright, suggestion, expectancy and subsequent subjective states), and the small balance can more correctly be placed to some other account.

For that matter, if properly put forth, the claim of hysteria brings quite as large awards. Any well-developed case of traumatic hysteria, if duly presented as such at the trial, may, in the metropolitan courts anyway, be expected to bring from, say, four thousand to fourteen thousand dollars; whereas this spring a prominent case of old fracture of the skull got a verdict of only a thousand. I am not at this point discussing things as they should be but as they are. Consequently neither science nor necessity call for the retention of the term neurasthenia here any more than elsewhere.

Rapid tire of special organs has long figured as a neurasthenic sign. It can now be stricken from that position. In a small proportion of cases it can be attributed to myasthenia gravis, or more often to the intermittent phenomena of arteriosclerosis. Most often, however, it is plain hysteria. Alderton's early ear-tire "Acoustic Neurasthenia," (*Annl. Ophth. and Otl.*, Oct., 1894), is of this kind now recognizable as hysterical. And the principle has recently been made clearer in connection with eye-work.

2. Hypochondria is possibly more a country than a city complaint. Still, we meet beautiful cases of it that have always lived in town. Regarding its nature there is little to say, except that it is often figured as neurasthenia.

The fact that hysteria proves to be not exclusively a disorder of women is balanced up by the like fact that hypochondria is not entirely limited to the male sex. While its occurrence in women is perhaps not as generally recognized, I now and then see just as certain cases. More care may be advisable in making the differential estimate. And public peace may forbid our making the diagnosis known.

The only thing to be said about the management of hypochondria is to emphasize the necessity of quite as much thoroughness and care as in more serious troubles. It is useless to treat a case superficially, and often useless anyway. But the only chance of success is to do the examination so thoroughly as to convince the patient against himself that your verdict depends on absolute knowledge. And at best you may have to go through it all again shortly.

There are, however, some cases of anxiety short of inveterate hypochondria, that yield well to your assurances, provided you have made it evident that you are master of the facts and not at all a bluffer.

3. Doubtless melancholia as a term will be tabooed by the state psychiatrists quite as stringently as I have treated the word neurasthenia. Yet, when a well-marked symptom, it indicates mental disturbance.

In practice, it is a bit surprising how commonly this is tided along as only a manifestation of hysteria or neurasthenia. Few seem to recognize the nature or often serious significance of depressive states. Here, again, falsely naming it neurasthenia brings added danger to the patient.

It is often said, what is the difference whether you call a thing by one name or another. In medicine in makes all the difference.

4 and 5. Mysophobics and tiqueurs we have always with us neurologically. They need but a scant word now.

Folie-du-doute, imperative ideas, and even acts are largely attributed to neurasthenia. The phobias and doubting fears though often symptomatic yet frequently so dominate the picture as to constitute practically independent disorders.

"Peculiar antipathies and fears (phobias), on the one hand, and morbid likings (for which the antithetic term 'philias' may be suggested), on the other, should be of about equal import. The former, however, appear to have received more recognition, doubtless because they more directly interfere with the enjoyment of life." "Some forms of this, as the fear of heights, are so common as to be almost normal phenomena. They assume clinical dignity only when interfering with conduct or when persistently occupying the individual's attention (obsessions)." *N. Y. State J. Med.*, 1908, 499.

The various tics, choreiform spasms, habit movements, etc., following French lead, are classable as an independent neurosis. There may still be question if they are more than a manifestation; but as they are so commonly tabbed neurasthenia the query is not material here. Pure tic habitues, as distinct from symptomatic forms, appear to be often endowed with heads quite up to the average size.

(Addendum).—It is not in the range of this paper to take up the psychic states of these patients, beyond their relation to classification. But there is an indirect side that plays an important part in their management, and warrants mention as a side-light on the sorting of cases. This refers to the manner, spirit and purpose with which many seek treatment.

One patient makes a blunt avowal he or she will not take medicine or permit the use of this, that or the other agent.

Another comes only by compulsion of some sort, and hence with fixed intention of blocking any means devised.

A third presents a complaisant front; but, like many with the drink habit, has no desire at heart to change favorite ways.

A fourth tells you of the wonderful cure of a previous attack or other sufferer by some method clearly inadequate to any real trouble, and fails to note the inconsistency of not doing likewise instead of consulting you.

A yet different phase in many neurotics is exemplified by the annoying habit of making an appointment, and either not attempting to keep it or coming far out of time. And that but illustrates their usual course of living. Likewise they carry out medical directions and advice in a way to achieve a minimum of benefit or none at all (though claiming and possibly thinking they are most observant).

And so on through the wide list of irreconcilibles, obstructionists and other antis.

Such persons it is good to spot early. For, there is little use attempting to treat these chronic vices unless and until some sense of orderliness, responsibility, purpose and co-operation has been effectually impressed,—and sometimes that is about all the treatment necessary. A doctor cannot treat typhoid or a cold or whatnot without the wish of the patient or someone with full authority, and there is as little use attempting to treat neurotics.

This phase became more conspicuous with the great wave of faith and allied visionary cures, and seems now waning a bit with it.

In addition to the above are the individuals, largely precox degenerates, who object to and oppose any statement or proposition referring to them, especially if from their sponsors (negativism, but usually coming as neurasthenia). They are apt to be chronically against everything, including doctor and treatment.

IV.—*Sexual Sources.*—The attempts to figure out a general form of sexual neurasthenia are, I opine, useless. Several types of nervous disturbance may originate here.

Mention of the sexual group of causes of neuroses or any intimation that the sexual life is a most important part of our physical career always evokes peculiar smiles, hilarity, and signs of quizzical doubt. I shall say a casual word too, on the anti-side, though mostly giving space to what is positive.

In the first place there is a notable difference in the neurotic reaction of the sexes. Of course the most important differential of the sexes is sex. And, correspondingly, disorders related to the sexual sphere differ more in the male and female than do other troubles.

An idea that sexual neuroses are a specialty of the unmarried should also be negatived. There may be no great preponderance on either side of the married line, though occasionally some variance in form.

1. *Spermatorrhea and Suicide.*—Seminal outcroppings, especially in the young and even if fairly frequent, are not such a serious matter. Even in degenerates this should be classed under symptoms and not causes. All boys have practiced some form of masturbation, —those who have not, unless eunuchs or incompetents, are either perverts, liars or doers of other evil. Such things need not be proclaimed on the housetops, but should steady our medical judgment. The favorite way of eliciting a history of sexual practices and then attributing everything to it smacks of theology and not of scientific medicine.

But, granting all this, it still remains true that continual or frequently recurring seminal leakage, real spermatorrhea, is a serious matter. It does not seem to be appreciated at present, and I know that you are likely to get well laughed at for suggesting any such possibility as the following.

I might previse that I have made or had made a great number of urinary examinations in neurotics. And it is only in this one small class, that more or less continuous seminal leaking has been observed. A genito-urinary man of experience tells me in corroboration that he has never found a single case of persistent or frequent leak in the many where he has examined the urine,—such cases doubtless going naturally to the neurologist.

These occasional cases occur in middle-aged or younger men with credentials as follows: Good heredity; an excellent mental record (as to sustained scholarship, steadiness at occupation, general conduct); and with good or average head measurements. When without adequate cause such a man, either slowly or acutely, develops a marked inability to concentrate his thought or longer do customary consecutive mental work, shows an unusual tendency to irritability and uneasiness, and becomes despondent or even suddenly and violently suicidal, the possibility of a prolonged seminal drain should be borne in mind. The suicidal impulse may be most intense, or there may be a violent outbreak of the maniacal type, or the matter may drag on more slowly and the patient not tell of his status. Doubtless variations in the pictures depend on the person and the variable amount of the seminal drain. Few of these sufferers approach the doctor with a full statement of the facts, and he customarily says neurasthenia. Of course, if the patient's history or other credential is bad, so much the worse. When they have mental remissions, no sperma.

My histories of such cases go back to 1892. Perhaps more are in the unmarried, but not all. Of three such cases at one time last winter, one has since been lost track of, another is now in an asylum, while the third seems fairly recovered.

Statistics of suicide in leading countries, as Germany, England and the United States, give the proportion of women as approximately but 20 per cent. of the whole. Various purely speculative reasons have been suggested for the excess in males. Here is one that is not speculative.

2. The fact that masturbation in boys is not often of dire significance was stated above. But the like does not hold for women. Just as we see with the drink habit, when a woman jumps on the rum wagon she well-nigh inevitably gives herself over to it with an abandon unusual in the male. Very likely in some cases it may be

partly a symptom. But, whenever particulars have been secured, it has proven in itself a strong causative factor if not the main cause. In the course of years and from all sorts of sources sufficient information regarding individual cases has accumulated to warrant the statement that a goodly number of otherwise very obscure cases of typical neurasthenic form in the female are of this origin, or at any rate most closely connected with the sexual sphere.

A gynecologist reports in a given case that the labia are indurated from long friction.

Again, on meeting a distant sanitarium man, he tells the later story of a cultured girl long and seriously disabled by what all denominated a neurasthenia (morbid fears, muscular asthenia, irritability, some cephalalgia, wandering of thought, etc.). She was not only found to be a thorough masturbator, but it was as well conclusively determined that whenever she was able to drop that line she was a well and most capable woman. Of late years the better state has become fairly constant.

Or this: A girl of frail physique, vivacious, and so much a typical exhausted neurasthenic that she was always shielded, considered disabled and unmarriageable, taken on ocean voyages and to near and far health cures, was married last year. She is now plump, sturdy, capable, a most admirable woman without trace of nervousness. The good husband is now showing signs of failure. Her own relatives place a natural interpretation on this, why should it be difficult for us?

These are samples that need not be multiplied. It is only by degrees that one accumulates enough such observations to catch their import. Sometimes married women are included, still more puzzling clinically.

3. From what may be termed blighted sexuality arise several pathologisms. These are mostly but not altogether seen in women.

"Going into a decline," "fading away," "crossed in love," and like euphonies were once nearly synonymous terms. The eventual outcome may have often been phthisis; but the earlier part of these afflictions in the separate case showed a more or less extended and beautiful condition of neurasthenia. Possibly at the present day there may be a less destructive sensitiveness on the part of the gentler sex, or the sequels are less obvious.

But the blight may take other directions. No woman passes unmarried through the active years (*i. e.*, to the menopause) without some distinct mental or nervous upset. Some of these cases reach institutions and then are doubtless classified according to recognized types. But a large part are retained by home and friends and then are oftener dubbed neurasthenia than anything else. The assertion as to the commonness of something of this kind will doubtless be questioned by commentators; its truth must be apparent to those who are interested in the neurologic field and have also had opportunities to follow the life-histories of individuals for long series of years. Per contra many a woman seems after the menopause to complete an interrupted mental development. As we now know that the arterial pressure begins to rise from the menopause on, we may suspect a physical basis for this. And, despite Osler, something of the kind is not rarely felt in men. The subject, however, does not fall further within the present scope.

Here is a different and lighter picture: A vigorous man of sedentary habits, with a family, comes to the time when his life-partner desists. For a time he seeks to keep in the closed path, and develops an increasing and most perfect neurasthenic state, twitchings, tics, phobias, paræsthesias, multi-fears, etc., to an extent that makes him a pest to others and a burden to himself. Whenever he wanders out regularly to pasture his neurotic condition clears up so as to cause no bother; and when a period of abstinence or blight ensues, the manifestations recur. This make and break of the circuit is so evident that his sexual conduct can be deduced almost any time. This is not such an unusual picture, though more or less the opposite is seen in some males.

4. Hypertrophy of the veru montanum, with congestion of vessels in the prostatic urethra (for a note on this form I am obligated to Dr. Pilcher, Jr.).

These are chronic cases, complaining of a sense of dribbling, pain in the perineum or across the lower abdomen and back. Usually considered as sexual neurasthenia. Soon relieved by application of the silver stick locally.

5. The subject of withdrawal and allied practices has been considered a harmless fad of one or two medical lights. Probably it has little organic significance in the male; in them some if not most of its sequelæ are hysteropsychic in character.

In at least two such cases the patients sought medical aid because of a very peculiar disability. For instance a man of affairs, in middle life, went to Boston to collect an account,—and presumably the incident would have occurred just as well in any other town. On attempting to sign a receipt in the presence of the payee he was entirely unable to do so. On reaching his hotel he could pen his name as well as ever. And from that time he had to modify his work so as not to attempt any writing if even a clerk looked on. A correction of his sexual procedures, other measures having failed, soon brought complete relief.

Such obscure lapses of the will-control for urgent and public acts may well suggest an inquiry on this line.

The effect of these practices in women is

different though not less important,—but that again I can best leave to the gynecologist.

V. 1. *Variorum Circulatory Troubles.*—The modern sphygmo-apparatus proves of inestimable value in clearing and defining many parts of the neurogenic field, is perhaps more necessary in neurology than elsewhere.

For, it would not be far amiss to say that our circulation controls our feelings, especially as between pleasant and unpleasant. What has been termed the general sense of well-being depends more on the state of our circulation than on any other one thing. Fulness and pressure appear to be the essential coefficients.

Some change in the blood-pressure, sufficient to constitute it an important factor, occurs in many cases. A let-down of 15-30 points in the systolic pressure (*i. e.*, from what would be a suitable pressure considering age, physique, etc.) may be the main or intermediary source of a variety of troubles, often with a dark tinge, though commonly accounted neurasthenia.

Such drop in the pressure acts in two ways as a depressant. In the first place it reduces the amount of blood to the brain, and thus emphasizes or favors a degree of anemia of that organ. And secondarily it hits directly this same sense of well-being.

Not long since it was widely divined that to arteriosclerosis we might look as the much sought cause of neurasthenia. It proved to be only an attractive guess, although vascular change doubtless does play a rôle in many cases.

Few cases fall exclusively to any one score. With the arteriosclerosis may come a failing myocardium. And in all cases there is doubtless combined with the arteriosclerosis some direct tissue-effects of the circulating toxine or whatever it is that produces the vascular change.

2. and 3. Some of the cephalic specialties have long been making inroads on the neurasthenic field. And if the estate of cerebral neurasthenia becomes defunct, all these specialties will be entitled to file valid claims against it.

The views of some ophthalmic enthusiasts as to the responsibility of eye-strain may be extreme; but this should not deter us from recognizing the important and established rôle that these causes play. An ideally normal person, however, would not react as much to the morbid, and hence we may suspect that in these cases heredity or other factor likewise plays a part.

The laryngo-rhinologists have established a sure footing here; but, it is hardly as great as the facts warrant, many cases passing unrecognized. Attributing the modus of these cases to reflex action is very questionable. Sepsis from retained and decomposing material; interference with respiration and oxygenation; insufficient cooling of the naso-pharyngeal vault; diversion of the brain-blood; the known febrile tendencies of congestions and slight inflammations in this area; modification thereby of internal secretions; and like causes; these are definite where reflex is a mere guess. Some of the cases are closely associated with lymphatism (*v. supra*). The severer results range from aprosexia to asthma. Lesser woes have been largely put down as neurasthenia.

From the dental side come tales of the terrors of retained teeth, and before that we have seen whole rows of fine teeth removed to ease irritation.

Some day our ear-men will rise to their rights and come in with a like bill of particulars. Tinnitus, dizziness, nausea, hallucinations of hearing, degrees of mental inertia, etc., often seem of that origin,—but are now turned back by the wise otologist as neurasthenia. That noise if sufficiently continued may produce neurotic states in the young is known.

Not every case of the so-called cerebral form of neurasthenia is of this local origin, yet etiologically the positives make a large class.

4. The exhaustion neuroses and psychoses constitute as much an etiologic as a clinical type. Correspondingly, in practice many cases fall under other divisions of the schedule. Enough remain to constitute a division, but need no detailing here.

5. As noted above, any number of most diverse conditions may occasionally take on a neurasthenic aspect—flat foot, diverticle of ureter, nephritis, and what not.

But particularly in their early stages do innumerable organic troubles give a certain warrant for this diagnosis. As they advance in degree the condition is eventually recognized, although doubts of the real relation long linger.

Tuberculosis, with its anorexia and slight toxic and anemic tendencies, very easily puts on this guise.

Tabes in its earlier stages and especially slower forms is commonly and sometimes for years classed as neurasthenia.

Myasthenia gravis, which proves to be not so excessively rare, is in all its earlier course a most perfect neurasthenia. This is so remarkably true as to make one sometimes wonder whether all our easy-tiring citizens are not affected with a degree of it.

Cushing has recently mentioned the frequency with which hysteria is diagnosticated in the prefocal stage of brain tumor. About as common to hear neurasthenia as hysteria. As we see good men deceived at times in these matters, it does not warrant criticism, and is only cited for completeness.

Spondylolisthesis is such an obscure and little-known trouble it is small wonder when over-

looked, even in exquisite cases, and called neurasthenia.

I have repeatedly met with early stages of progressive muscular atrophy that impressed various men as hysteria or neurasthenia, and only the later course showed the error, or earlier experience served as a warning.

We lack some term for and more knowledge of slight or incipient grades of neuritis or nerve-injection. Hyperidrosis with chilling of nerve-endings, so-called rheumatic twinges, neuritic paresthesias, and partial cases of more standard forms of neuritis, are common and too often attributed to neurasthenia. We lack adequate means of objectively separating them from more spontaneous complaints.

And these are merely samples. The list might be extended indefinitely.

Conclusion.—If the existence of neurasthenia as a disease-unit is bowled over and its hodge podge resolved into definite elements, the next thing in order might be a system for the diagnostic identification of the latter. As these do not constitute a natural system that need not be attempted here. The main thing is individual and adequate examination, a consideration of every feature and complaint of the case, and careful interpretation along physiologic lines. Certain specialties are necessarily in the main objective; some do not appear as yet to have learned how to utilize discriminating information from their patients; in neurology it is indispensable.

The importance of any advance in medical knowledge is shown by its value in practice. We laugh at the quack and advertiser who proclaim panaceas and cure-alls. And we might do the same at the long string of agents that follow one another in the medical press as remedies for neurasthenia. The widely diverse nature of these cases make all such attempts and claims ridiculous. There is only one method and that is to work out each case; the indication is then usually apparent, and remedy or relief can be prescribed by almost anyone.

And, finally, a word in honor of Beard. Though the term he originated become eventually only a popularism, so long as medicine has use for knowledge his work will have value. Fresh, incisive, inspiring, epoch-making. In the finer symptomatology, in the valuation of subjective phenomena, in the interpretation of the innate and personal, in the rational explanation of the seemingly occult, he was a master and gave a stimulus that has proven world-wide.

Some have privately intimated that he drew much of his output from an active imagination. In that case, though certain of his writings be visionary, I'd say, much as did Lincoln of the rum that Grant was reported to take, would that we had more of it for others.

I know nothing more developing for the young neurologist than a study of Beard's major writings. His work is a milestone in practical neurology and a lasting honor to American medicine.

THE PSYCHOLOGY OF TUBERCULOSIS.*

By W. H. KIDDER, M.D.,
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OF those diseases which result from the harassing warfare of some lower form of life upon the human organism none is more surely traceable to a specific cause, a definite and universally recognizable germ, than tuberculosis. Of those germs which menace the existence of man there is none whose life history has been more fully written than that of the bacillus tuberculosis. The fact that the presence of the bacillus is absolutely essential to the development of tuberculosis allures many of us to the hope of finding some agent equally definite to check the disease by insuring destruction of the germ, and perhaps at the same time makes us impatient of less definite influences and of generalizations. While we may all look for the time when some specific remedy may make it possible for us to, in a large measure, concentrate our study of tuberculosis upon its bacteriology, to-day he who would lead its victims toward recovery must consider almost every phase of the patient's life. It is the need for comprehensiveness in the observation of the tubercular, which leads me to bring to your attention comments on the mental states which accompany tuberculosis.

If a definite psycho-pathology were attendant upon tuberculosis, we should naturally expect to look to our institutions for the insane for our most accurate information upon the subject. In these institutions we find little to impressively point to tuberculosis as productive of any definite form of insanity, other than would come from the debilitating effect of the disease on a person of poor mental poise. On the other hand we find nothing to indicate that the insane are specially vulnerable to tuberculosis, excepting as they represent a class whose general bodily resistance may be considered as of low degree, whose sense of personal care is defective, and a class congregated within the confines of institutions. Observers of conditions in penal institutions have all put the death rate from tuberculosis at a high point, even up to 60 per cent. of all deaths. This naturally helps us to infer that any excessive death rate from tuberculosis among the insane in institutions is not due to mental condition, *per se.* In fact, in such institutions the rate is apparently as much lower as the hygienic conditions are better. In a period of years in the state hospitals of New York State only 14 per cent. of the deaths were given as due to tuberculosis, while during the same time almost 15½ per cent. were due to paresis. Unfortunately we do not know in what proportion of the 86 per cent. dying from other causes tuber-

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culosis was a contributing factor. The present day methods of observation in our state hospitals will in a few years give us much accurate information along these lines.

The psychology, or perhaps more properly the psycho-pathology, of the presumably sane tubercular is the subject to which I want more particularly to direct your attention. I feel safe in saying that there are many points of similarity between the mental condition of the patient who is in the early stage of tuberculosis and that of the neurasthenic. A sense of fatigue out of proportion to the degree of exertion causing it, a sense of restlessness, and a noticable irritability, are seen in both disorders. Often the victim of incipient tuberculosis does not recognize his condition, but feels a lessening endurance and sense of easily induced fatigue, and soon finds himself suffering loss of weight, anemia, and a condition of general debility, these physical signs being accompanied by irritability and restlessness. Excepting for the cough, the symptoms have many points in common with those of the neurasthenic in the earlier stages. However, the patient assumes an attitude of indifference toward his decline in health, maintaining that he is not sick or that his trouble is of little consequence and will soon right itself. From a person whose bodily ills are accompanied by a line of symptoms neurasthenic in type, he develops a definite perversion of thought, and even against his knowledge and better judgment becomes possessed of a desire to belittle the seriousness of his ailment, maintaining an attitude of indifference and of false cheerfulness and hopefulness. The progress of his physical symptoms forcing upon him the suspicion that he may be suffering from a disease which he has heard called a "plague," humanity's "scourge," the most fruitful of all causes of premature death, he quells his dread by evasion, the very intensity of his fear of a foe so insidious making him avoid rather than develop a phthisiophobia. In the meantime his physical forces are waning and his system is becoming poisoned by the toxins developing from disordered nutritional processes and from the growth of a specific bacillus. His desire to avoid recognition of his condition and its gravity becomes fixed, and becomes a factor which must be considered by his attending physician. Quite early in the course of his tuberculosis he has become a clear case of psychasthenia. Were we able to treat tuberculosis by some specific agent directed against the causative germ, this mental attitude would be a matter of little moment, would not, in fact, be so fully developed, but in view of the fact that our treatment must include a careful oversight of the whole range of the patient's life, we find opposed to our efforts not only an indifference indicative of a failure to recognize the seriousness of the problem in hand, but often an actually obstructive attitude, the obstructiveness of the psychasthenic.

Many have undoubtedly observed the sense of hopefulness in the tubercular. In another and very different, but no less serious trouble, we observe an attitude of false hopefulness. The epileptic considers the vague but efficient remedy which is to be found the next week. He adopts each new remedy with a feeling that at least he has found what will bring recovery from his disease. However, on an average the epileptic is physically strong. When his disease produces physical weakness and incapacity, it also clogs the processes of mentation and of memory so that he does not recognize his weakness and incapacity. When active his hopefulness is the hopefulness of strength and of a sense of well being, and often is not clouded by any very definite knowledge of his attacks. As time goes on, from being the hopefulness of conscious strength it shades into the indifference and comfort of dementia. There accompanies it none of the characteristics of psychasthenia. In the victim of tuberculosis we have the hopefulness of evasion made sincere by the toxic and debilitating influences of the disease.

He who successfully treats the tubercular must recognize their psychasthenic tendency. He must know that the seeming indifference and the oft-times obstructive attitude of his patient are not voluntary or due to carelessness. Until tuberculosis can be met and overcome by means more direct and specific than are now at our disposal, the practitioner's ability to cope with the disease will, in a large measure, be determined by his ability to recognize and deal with the perversions of mentality which accompany it. At least, his observation of the mental trend of his patient must be as keen as that of the charletan whose quick recognition of the essential facts permits him to prey with special facility upon this class of unfortunates.

THE CARE AND TREATMENT OF EPILEPTICS.*

By WM. T. SHANAHAN, M.D.,
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THE term "epilepsy" refers to a group of symptoms which are the clinical expression of various underlying conditions; *e. g.*, structural stigmata of defectiveness; degenerative cardio-vascular disease; focal organic disease of the brain; toxic states and those arising without any tangible cause; *i. e.*, the idiopathic epilepsies.

The syndrome may be defined as a chronic,

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progressive disorder, with a symptom complex, characterized by recurrent abrupt seizures of impairment or loss of consciousness, with or without convulsions and usually producing mental and oftentimes physical deterioration.

The time allowed me is too brief to refer at length to diagnosis, but I wish to call attention to the fact that frequently the early manifestations remain unrecognized for years. The various types of mild and incomplete seizures are too commonly ascribed to other causes. The borderland cases require long and careful observation before a definite diagnosis can be arrived at.

The etiology of epilepsy is apparently as complex as it is phenomena. The difficulty in obtaining correct information from relatives or friends in regard to alcoholism, syphilis, insanity and similar conditions is marked and oftentimes well nigh impossible. They feel that some of these matters should be concealed from everyone, even the physician. In many cases, there is, of course, a complete or practically complete ignorance of facts concerning the exact state of health of living members and the cause of death of those not living. The family physician is sometimes guilty of either aiding the family in concealing some important information, or he is careless in pressing sufficiently hard to obtain the requisite facts which have a bearing on the case in question. He is sometimes afraid to offend the relatives by asking for such information. If he uses proper tact and judgment, he can in practically every case, secure from the relatives all of the information within their knowledge regarding the case. This total information is in many patients painfully meagre and sometimes even nil.

The consensus of opinion at the present time is that true epilepsy is indicative of a family neuropathic degeneration. There are often present other hereditary degenerative conditions such as stammering, backwardness in walking and talking, delayed dentition, deafmutism, imbecility, etc.

Eighty-five per cent. of all cases appear before the twentieth year of age, thus showing itself as essentially a malady of the period of development and growth of the central nervous system. It is during these years that the nervous instability acquired by heredity is most effective; and it is during this period of life that causes altogether insignificant, or insufficient in stable nervous systems, may light up the tendency to the impairment of consciousness with the convulsions, which characterize this malady. Many explanations are given by the patient or his friends or relatives as to the cause of onset, but these in most cases, are but conjectural. The essential cause and real explanation is thought to be found in the rapid growth during the first few years of life, the onset of puberty and accompanying changes in persons predisposed by heredity to nervous instability and convulsions.

In these individuals a convulsive habit may be established either in course of natural development, or as a result of certain occasional or accidental causes. Once the convulsive habit has been established, there is a tendency to its perpetuation in the form of recurring epileptic seizures. Thus infantile convulsions are frequietly the starting point of a subsequent epilepsy, either as a direct sequence of the convulsions, or in later years at or about the onset of puberty. The great majority of the cases of infantile cerebral palsy have convulsions in later life. Convulsions occurring as a result of the exanthemata, acute infective disorders and disorders due to toxic influences are often to be regarded as manifestations of an acute epilepsy.

Convulsions arising as a result of trauma to the head, without organic disease of the brain, are of a similar character, but less acute in onset. The convulsions induced by traumatic lesions of the brain, by coarse lesions of a vascular, more especially syphilitic, nature and those of organic cerebro-cortical disease, particularly tumor, may be forerunners of genuine epileptic seizures, which persist even after the exciting cause has been medicinally or surgically removed.

The convulsions of later life, as are seen in the so-called "senile epilepsy," and in those associated with cerebral thrombosis or hemorrhage, are thought to point to the existence of a latent convulsive tendency, which is only brought into prominence by an accidental circumstance, or constitutional cause.

Those individuals who become epileptic do so, in all probability, because of some primary defect in development of the brain which renders the cortical cells so unstable that they re-act abnormally to various stimuli. As time goes on, this instability becomes more marked in consequence of structural changes imposed upon the primary defect.

Regarding the use of alcohol, it is not the quantity of alcohol ingested that is important, but it is the reaction of the individual case to the alcohol ingested. One person might consume large quantities and suffer less damage than another taking a much smaller quantity of a milder intoxicant. Each case is a study in itself when the question of transmitted weakness as a result of alcohol is to be considered.

In very few cases of epilepsy seen in our public institutions, can we obtain a history of specific disease in the parent, nor can we find in the patient manifestations of hereditary lues. Most authorities have claimed that the percentage of cases due to hereditary syphilis is small.

The rôle played by hereditary syphilis in the production of epilepsy is difficult to ascertain definitely. With the Wassermann and Noguchi tests more evidence has been uncovered to prove

that syphilis is present in a considerable percentage of our defective classes, among whom, of course, are included epileptics. So many pregnancies in syphilitic mothers fail to come to term or if the child is born, have but a brief existence, that we would not expect to find this underlying factor in the majority of older defectives.

Hochsinger, investigating the fate of children whose parents had contracted syphilis before marriage (J. A. M. A., Vol. 55, p. 610), studied 139 families of the better class with 569 children. These 139 women had 263 syphilitic infants born alive, 253 dead babies and 53 living non-syphilitic children. Of the 263 affected children, 55 died before reaching four years, thus leaving 208 under prolonged observation. Hospital statistics show that 70 per cent. of all syphilitic babies die in their first year. Hochsinger claims the first born child is most affected, the second less, and so on. Where maternal lues was present, the children were more liable to be affected. He feels that an energetic, long-continued anti-syphilitic treatment may do much good for these children.

As stated, we do occasionally find that in acquired syphilis, phenomena present themselves which cause the physician to diagnose epilepsy. Anti-syphilitic medication, in some cases, produces excellent results; in others its effect is nil.

The conclusions to be drawn from our present knowledge of the possible influence of etiological factors in epilepsy are as follows:

1. Epilepsy, feeblemindedness, insanity, alcoholism and similar disorders, when present in antecedents have a deleterious influence on a large percentage of descendants, especially when in the direct line.

2. The deleterious influence manifests itself either by mental deficiency, physical abnormality or as one of the symptom complexes as epilepsy, insanity, etc.

3. Uniform and exhaustive methods of studying heredity along lines now being mapped out must be obtained before our statistics will be of great value.

4. The destructive influence of alcohol, syphilis, the various infectious diseases, rickets, trauma, etc., on the central nervous system is unquestioned. These pave the way for epilepsy in the individual himself as well as in his progeny.

5. The epilepsies are as a rule but evidence of a subnormal individual.

The present opinion as regards our knowledge of epilepsy, is that there are no definite facts as to its exact cause, but at the same time, among those who have carefully studied the matter, there is quite a general consensus of opinion that the symptom complex is of toxic or autotoxic origin. The analogy of the cell changes in epilepsy to those produced by the toxic agents lends much force to this opinion.

As to the pathology of epilepsy, we must in a large part agree with Reynolds, who wrote in the early sixties, that pathological anatomy has shown three things; first, that there is scarcely any morbid condition which may not be found sometimes in the bodies of epileptics, second, that no structural change is constantly found at all periods of the disease, third, that some lesions are of more common occurrence than others and that many lesions have no causal relation to the phenomena of epilepsy and that many of these lesions must be duly regarded as its effects.

Hughlings Jackson's theory is that epilepsy is more often due to a condition of specific systemic poisoning, a condition in which deep-seated errors exist in the fundamental principles of metabolism, in the ultimate cell life; and which errors are so serious from time to time and at irregular intervals that a positive universal condition is the result, which toxic condition varies in intensity in the same individual at different times, as it must to produce attacks of epilepsy alternately so unlike and so varied in character.

Many claim that epilepsy is due to some toxic substances circulating in the blood. Inasmuch as seizures similar to those observed in epilepsy are seen in diabetes, uremia, various infectious disorders, alcoholism and other conditions, these claims have much weight. The toxic substances may be of intestinal origin as result of abnormal digestion or absorption; of impaired excretion; changed internal secretion or from external origin such as from alcohol. The toxic substances reported may cause the seizures, but there must have been a predisposition in the individual as we all, without doubt, have at one time or another similar substances circulating in our blood.

However prominent the exciting cause may seem in some cases, the predisposition present is practically always very plain if a careful study of the case is made.

Although the general medical profession still believe in numerous reflex epilepsies, most of these observers who have had large experience feel with Gowers, Peterson and others, that the so-called reflex epilepsies are exceedingly rare. Although these conditions may be corrected, one seldom sees a complete cessation of seizures and in many, no appreciable effect is noted. An epileptic has a nervous system more susceptible to influences than has a normal individual, but that such reflex causes can produce the disease in an otherwise healthy person, I do not believe. The hereditary instability of the cerebral cortex is the ever present condition we must consider. More and more cases of so-called idiopathic epilepsy are shown to have an organic basis.

The chemical changes occurring in the living nerve cell are unknown quantities and it seems reasonable to believe that the exact exciting cause of the development of the symptoms of epilepsy, insanity, etc., is locked within these cell limits beyond discovery by any methods now

known to us, and perhaps, as has been maintained, may never be known.

As referred to, the various forms of meningitis, cysts, new growths, localized hemorrhage, aneurism, encephalitis and depressed bone are possible causes of epilepsy.

Surgical removal of these lesions when possible may relieve but too often we find the seizures recur. If a portion of the cortex or a part which presses on the cortex is removed, we must necessarily have subsequent cicatrisation or other changes as a result of which a focus of irritation is developed to continue the symptoms we had hoped to have disappear. The removal of a myxoma, glioma or other new growth of the cortex may be perfect from a surgical standpoint and still the symptoms of the epilepsy reappear within a few months or sooner. Certain alterations of the finer structures of the contiguous parts have occurred which are beyond remedy by use of the knife. Some temporary relief, really marked in some cases, does occur.

As L. Pierce Clark pointed out, the aura, except when motor in character, is entirely subjective and to interpret its possible localizing value, all the fallacies of human testimony have to be reckoned with in estimating the statements of an individual who is in the majority of instances defective mentally.

Trephining for the relief of epilepsy is of ancient origin, when it was supposed to permit the evil spirit to escape. It was used extensively during the sixteenth century.

The treatment of epilepsy from the most remote period has included surgical procedures, regarding the efficacy of which there has always been much dispute. One writer of considerable note states that after a most exhaustive study of surgical treatment of essential epilepsy, he concludes that operation is useless. Neither sympathectomy nor craniotomy is capable of insuring a lasting improvement or permanent cure.

How many persons suffer trauma of head and elsewhere and never develop epilepsy? The trauma in the history of the epileptic are simply incidental in many instances. Manley reported that in a series of more than seven hundred fractures of the skull, he found no direct evidence that epilepsy occurred in any one who before injury did not give a history of having had symptoms earlier in life.

Kocher claims that epilepsy is due to a general or a local exaggeration of the intra-cranial pressure. Opening the dura acts as a safety valve to regulate this pressure and results in cure in many cases. Bergmann claims epilepsy is hereditary in 90 per cent. of the cases, and whether congenital or acquired, bars a successful operation.

Alexander, of Liverpool, advocates fenestration of the dura as a method of relief.

Many observers maintain that there exists a strong relationship between all epilepsies and the various paralytic states of the brain, indeed Freud states that all epilepsies are apoplectic in origin, either intra or extra uterine. In partial support of this, we must admit that many epileptics fail on superficial examination to present brain palsies, but a careful search many times reveals evidences of an unrecognized cerebral palsy probably dating back to infancy.

Sir Victor Horsley reports operating on five cases of idiopathic epilepsy of localized onset. Two of the cases had proved to be of organic origin. These showed to him that an exploratory operation might be justifiable in cases which had resisted medical measures. In Jacksonian epilepsy there exists a gross lesion or a toxæmia. In traumatic cases of a Jacksonian type, the convulsions may be generalized or localized. Surgical measures are not by any means uniformly successful; in localized cases, however, trephining is, according to Horsley, very successful, particularly when the scar was in a so-called motor area; less successful when the scar is in the occipital region, and still less successful when it is in the frontal or tempero-sphenoidal region.

It should be borne in mind that neoplasms within the cranium may not produce localizing convulsions but cause general convulsions similar to those seen in idiopathic epilepsy. Cushing tells us that an inversion of color fields may be the first symptom of brain tumor.

My opinion is that brain tumor and traumatic cases of epilepsy operated on early before several seizures have occurred to produce permanent damage, may be benefited in many instances. Careful after treatment with sedation where indicated is of the utmost importance.

We must remember that any change in treatment, operative or not, often produces much benefit either as a result of closer attention to details or by psychical influence. Do not forget that many patients are worse after trephining than they were before.

Alexander, and later Jonnesco and many others, have practiced cervical sympathectomy in epileptics with reports of a percentage of cures reaching from 25 to 50 per cent. Jaboulay and Lannois report a series of sixteen cases in which the result as far as cure was nil. I witnessed three operations of this nature performed at the Craig Colony by Dr. Roswell Park, of Buffalo, N. Y. One, a male, had grand mal seizures two or three times a month preceding the operation. Since then a period of six years has elapsed with a freedom from seizures. He is now practicing law in Cincinnati. The second, a female, had her seizures much less frequently for a time. The third case, a female, showed no improvement.

The epileptic is too frequently a degenerate with an abnormal nervous system which cannot be readjusted and made anew by operative procedure. The congenital defect is beyond renovation by surgical skill.

The question of exhaustion palsies occurring in epilepsy may be due to a similar cause which produces the temporary palsies seen in uremia, that is arterial spasm and localized cerebral edema. Cushing and Bordley, as a result of their observations on their cases of cerebral decompression, came to the conclusion that the local and transient hemiplegias and aphasias, amauroses and Jacksonian fits or uremia are also due to edema of the brain. What can operative intervention do for these?

The etiological influence of the pelvic organs of the female in the production of the phenomena of epilepsy has been argued pro and con for many years. In my opinion, as a consequence of failure to find the alleged close relationship between these conditions, we must seriously question the advisability of performing operations on the female generative organs with the idea in mind of gaining anything unless it be an improvement of the general health of the individual by removing some pathological condition.

La Place and Runyon have reported epileptics markedly relieved as a result of appendicostomy with subsequent colonic irrigations over an extended period.

Sieveking, writing some sixty years ago on epilepsy, stated with much wisdom that: "The air the patient breathes, the water he drinks, and his ablutions, his daily occupation and habits, his amusements, his food and beverage, his clothing, his mental and moral history, and his prospects in life, should be inquired into in order to determine whether, or in how far, one or more of those elements require modification."

These matters have in our day too often been neglected by the physician. All abnormal conditions of the nose, eye, teeth, gastro-intestinal tract, pelvic organs in women, etc., must be corrected if possible as a basis for correct treatment. In order that proper dietetic and hygienic treatment be carried out, the epileptic should be placed in a special institution if a properly trained and capable nurse or companion cannot be secured outside.

A regular occupation, preferably out of doors, is very essential for the ablebodied epileptic. Special instruction in the ordinary school branches and especially in manual training, should be arranged for the younger patients. This is important to inculcate discipline as well as for the knowledge acquired.

There is no specific medication to be used in epilepsy, although we must admit that proper use of the bromine preparations approaches this in selected cases. In some the bromides bring about a complete cessation of seizures, but in most instances there is but a diminution in the frequency and severity of the attacks. In other cases, as is well known, the bromides seem to exert no appreciable influence on the symptoms.

Bromism is not necessary to produce favorable results where such are to occur. Proper regard for diet, hygiene, especially hydrotherapy, and dosage will obviate untoward results.

Bromides should be given early and continued over a period of years. If a maximum continued dose of from 75 to 90 grains during the 24 hours does not control the seizures in an adult, it is not wise in the average case to push the drug beyond this point.

It is well established that the elimination of sodium chloride from the diet aids materially in producing the full effect of the bromides. The potassium, sodium and strontium salts are most commonly administered, ordinarily in divided doses and usually in combination in an elixir and well diluted. Other bromine preparations; *e. g.*, bromipin, brovalol, bromoglidine, brometone, etc., may be used as more elegant medicaments. Where associated cardio-vascular conditions exist, digitalis, strophanthus, amyl. nitrate, nitroglycerine, etc., prove of value. Bechterew recommends adonis vernalis with bromides and Turner claims to have obtained good results following the use of Gelineau's formula; *i. e.*, Pot. brom., 1 grm.; picrotoxin, 1-3 mgrm., and ½ mgrm. of the arseniate of antimony. Turner increases the dose until six such doses are taken daily. Belladonna, borax, chloretone, simulo, solanum carolinensis, zinc salts, etc., have never given me any good results.

Contrary to what is often taught, strychnine can be used without fear as a stimulant or tonic where indicated.

During the past year, investigators have claimed much benefit resulting from the giving of calcium lactate but a series of cases at Craig Colony to whom it was exhibited failed to show much change except one boy whose condition did improve some.

The treatment of serial seizures, status epilepticus and the various mental disorders accompanying epilepsy is of great importance. Avoidance of constipation, proper exercise, a carefully regulated diet and frequent bathing are of the utmost value as prophylactic measures. When status is once established, the gastro-intestinal tract must be thoroughly emptied by cleansing enemata and by stomach tube. Then chloral or amylene hydrate by enema should be used judiciously to control the convulsions. The bromides are of but little value in this condition. Chloroform may be given in the early stage until some chloral has been absorbed. Lumbar puncture to relieve this supposed increased intracranial tension may be used in severe cases. Venesection is used in plethoric individuals. Cold sponges or packs are of great value to control the temperature which may be elevated to 107 or 108 degrees. For stimulation, where required, I have found enemata of strong black

coffee and hypodermatic injections of brandy and aromatic spirits of ammonia to act very nicely.

After the convulsions have ceased, a supportive diet and careful nursing are all important. Watch out for pneumonia and bed sores.

For the mental disturbances close supervision, nourishing food, due attention to the emunctories and hydrotherapy are sufficient. Where insufficient nursing exists, it may be necessary in markedly maniacal cases to use hyoscine hydrobromate hypodermically, but only as a last resort. Continuous warm baths and hot packs properly given will quiet the most violent case.

The diet in epilepsy can be fairly liberal avoiding an excess of meats and all pastries, sweets, etc. Pork is usually tabooed but I cannot see how a little, if well cooked, cannot be allowed occasionally. Some patients do better without any meat. Cooked cabbage and cauliflower are to be avoided. The food must be well masticated, not bolted. Unless the little details in diet as well as hygiene, etc., are carefully attended to, we cannot look for beneficial results.

For chronic cases in which there is an organic basis, the individuals should be placed in the special institution where with his fellow sufferers he may lead as cheerful an existence as his condition will permit. He can have regular and congenial occupation and recreation with a suitably arranged simple life with avoidance of all undue excitement. Where epileptoid symptoms are apparently due to abuse of alcohol, total abstinence must be insisted upon. Dietary and hygienic details must be given careful attention. Oftentimes in these cases there must be a radical change in the environment if a favorable outcome is to be looked for.

Epilepsy is essentially a chronic disorder, consequently treatment must be continued over a long period of years and in all instances a closely regulated mode of living must be maintained throughout the remainder of life. An individual who has once had symptoms of epilepsy and they have disappeared may have a recurrence owing to his pre-disposition.

A fact to be borne in mind is, that a sudden withrawal of sedatives from an epileptic may produce a fatal status epilepticus. The use of sera, thyroid and other glandular extracts has not proved to be as valuable as was promised, although some writers still report marvelous results.

The use of quack remedies must be combatted as they usually tend to seriously injure the individual.

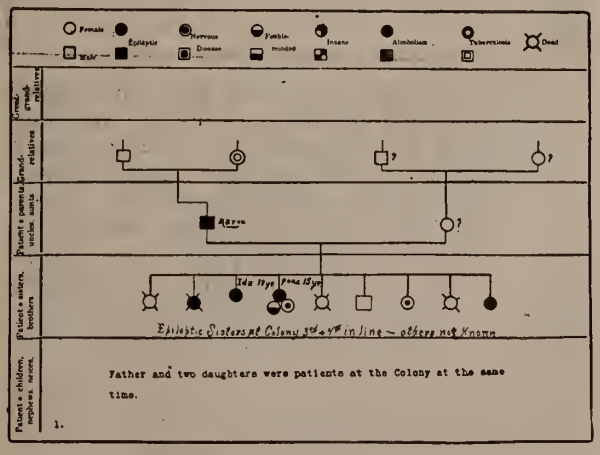
Altruistic principles make us feel that permanent segregation of defectives is a kindness to these unfortunates and a duty owing the social body at large. Asexualization is indicated in many instances to prevent absolutely the propagation of these individuals, but if even these are turned loose in the community, they cannot properly adjust themselves to their environment. The high grade defective, even though prevented from begetting his kind, is capable of doing much harm if allowed his freedom. All of these preventive measures cannot blot out the army of defectives as a considerable percentage are recruited from parents supposedly approaching the normal average, but it is clearly evident to all that those plainly defective should not be permitted to multiply their kind.

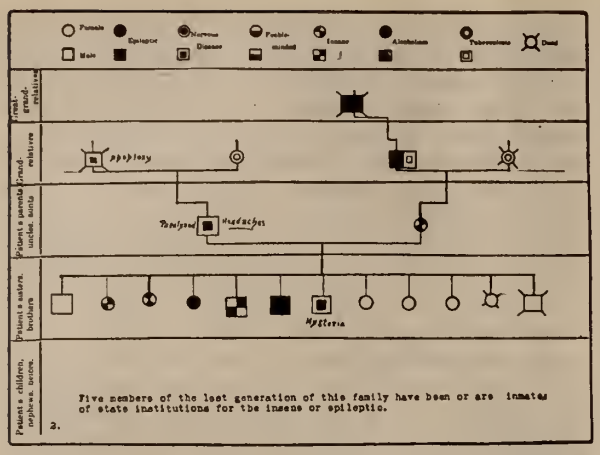
Those entering into the married state should do so with greater knowledge and circumspection than is now the case. The contracting parties should be aware of what will unfailingly follow certain conditions.

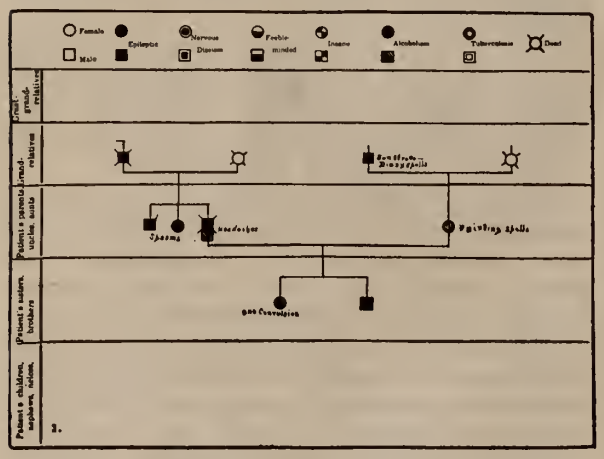
One writer of experience remarks that the time should soon come when all cases of epilepsy, feeblemindedness, insanity, criminality, etc., should be reported to some central point and accurate records kept of such defectives.

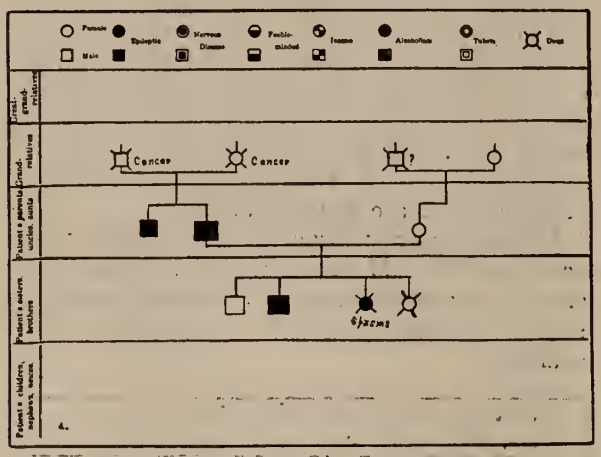
Before any material results can be obtained from law restricting marriage or cohabitation, we must secure the active co-operation of the general public. In order that this may be brought about, it will be necessary to carry on for years or even generations an active campaign of education to create a well established public sentiment against the propagation of the unfit. This public education must come primarily through the efforts of the physician, especially the general practitioner. This subject is very old as you all know, but why not every time you can, do your share toward teaching what can be done? Physicians in general must begin to realize the seriousness of these matters and the great necessity of exercising such means of prophylaxis as are readily available.

I have for your inspection a few charts prepared by Dr. Munson, which illustrate very clearly how many defectives propagate and why their marrying should be systematically discouraged.









New York State should have laws with proper penalties attached, prohibiting the inter-marriage or cohabiting without marriage of those plainly defective such as the epileptic, feebleminded, insane, confirmed criminal, inebriate, etc. These laws should also make it a serious offense for any person of sound mind to marry or cohabit with or to aid others in marrying or cohabiting with any such epileptic, insane, feebleminded, criminal or otherwise mentally defective individual.

Why does not New York State come forward in this matter of prevention as well as it has in its active campaign against tuberculosis?

After considering the etiological factors and the course of epilepsy, one can readily understand why the ultimate prognosis is unfavorable in such a great percentage of cases. Many respond to proper treatment so far as a diminished frequency of seizures and general improvement of health is concerned, but those actually cured are comparatively speaking very few indeed.

The earlier the onset, the more frequent the seizures, the more marked the general deterioration, the worse is the prognosis.

The period that an epileptic must be free from seizures to be considered cured varies from two years to a lifetime according to the particular writer. In my opinion, if an epileptic has been free from seizures for from two to four years, they can be pronounced as recovered with the explanation, however, that seizure may recur later in life.

Finally, we must confess that our prognosis does not differ materially from Cooke who stated nearly a century ago that: "Upon the whole, the younger the subject, the less frequent and less violent the attacks, the more removable the exciting cause and the shorter the time to which the patient has been subject to the disorder, the greater the probability of removal. On the contrary, when the disease is hereditary or of long standing and the attacks frequent and violent, when the strength is much diminished and the powers of the mind impaired, the more desperate must the state of the patient be considered."

THE IMPORTANCE OF AN EARLY DIAGNOSIS IN ABNORMAL PELVIC CONDITIONS.*

By MARY GAGE-DAY, M.D.

KINGSTON, N. Y.

THE etiology of new growths and other abnormal pelvic conditions is often obscure and unsettled; but the suffering and death frequently caused by these conditions is not unsettled nor uncertain. It is one of the most distressing realities which physicians are called upon to face.

There are many theories concerning the etiology of new growths. Very careful scientific studies of some tumors have seemed to show that although they developed at various ages, the primary nodes existed in fetal life. An interesting study was made by Dr. Montgomery, of San Francisco, upon tumors removed from a girl twelve years of age, who had never menstruated, but who developed a tumor in the right side of the abdomen of such size than an operation was done for her relief and what was considered a benign teratoma removed. The girl recovered rapidly, but began to enlarge again, so that a

* Read before the Third District Branch meeting, at Albany, N. Y., October 4, 1910.

second operation was done and a second tumor was removed; but the patient died three days after the second, and fifty-one days after the first operation. Dr. Montgomery made very careful microscopic studies of both of these tumors and upon discovering what he believed to be nervous tissue in both, which is unusual in teratoma, he submitted his sections to Dr. L. F. Barker, then of Chicago now of Johns Hopkins, who studied them and confirmed Dr. Montgomery's interpretations of the tissues, and agreed with him that this teratoma was probably a case of fetus in fetu. In other words, the girl had carried the germs of this tumor in her abdomen since birth, and it was really a twin brother or sister.

Pozzi, of Paris, states that it is undoubtedly true that the germs of ovarian cysts date from fetal life, the formation of the neoplasm has begun at that time to remain latent until it receives some impulse that causes it to develop. If this is true of these tumors it seems reasonable that it is also true of uterine tumors.

Howard Kelly, from his wide experience, considers it probable that uterine myomata exist of microscopic size from fetal life.

Montgomery, of Philadelphia, states that a case uterine myoma had been reported in a girl of ten, but the diagnosis was not confirmed microscopically.

E. Saul, from a long series of experiments and observations, believes that in fibromas, cystomas, carcinomas and sarcomas, a special class of parasitic organisms exist.

It remains for future scientific studies to demonstrate the cause of these new growths, and whether the nodes of them exist from fetal life or not; I believe strongly in the hereditary tendency in some families for the females to develop pelvic tumors. Many cases of dysmenorrhea are due to small fibroids in the uterus, and it will usually be found that other members of the same family suffer in the same way. A very interesting case of ovarian tumor came to me not long ago. The patient was the third in direct succession to develop an ovarian cyst. She was operated upon and recovered. Both the surgeon and myself had diagnosed ovarian cyst of the right ovary as large as fetal head. This was true, but the operation disclosed one in the left ovary as large as an orange. This was removed also. This girl's grandmother died of ovarian cyst, without operation. Her mother was operated upon for ovarian cyst at the New York Hospital for Women, by the late Dr. H. T. Hanks, and recovered and lived many years. The girl, who was never married, when about forty noticed that the right side of the abdomen was enlarging. She consulted her physician, was examined, and the diagnosis was made and she was referred to me. She was operated upon at the Kingston City Hospital by her own physician, Dr. J. L. Preston. The heredity in this case was on the mother's side.

A patient in whom the inheritance seemed to be from the paternal side was referred to me by another physician in Kingston. The patient was thirty-seven and had been treated for several months for rheumatism by a physician (not the one who referred her to me). The examination showed the pelvis filled with a mass of uterine myomata. I explained that her case was beyond medical treatment and advised surgical. To this she objected, as she said her sister had died two years previous after an operation for fibroid tumor. However, upon the urgent advice of her physician and myself, she saw Dr. Van De Veer, of Albany, who thought it a favorable case for operation and it was done by him at the Albany Hospital. Patient died on the third day, of ileus. The mother of these two women is living and well, at the age of eighty-one, and always had good health. Both daughters had severe dysmenorrhea from puberty and both died at the age of thirty-seven after operations for fibroids. There was no history of neoplasms in the mother's family, but in the father's family the women had suffered from tumors and some had died from operations. These cases proved nothing, but when one finds such in actual practice it seems natural to ask whether it was all chance or whether such developments are in accord with some unproved, fundamental law of organic life.

According to our present knowledge it is impossible to state the cause of new growths; but it is of the greatest possible importance to the patient suffering from them that the physician whom she consults shall make a *correct diagnosis at once* and give the proper treatment instead of treating rapidly growing fibroids for rheumatism or cancer for displacement or inflammation.

No diagnosis can be made in these conditions without a careful bi-manual pelvic examination. I wish to state positively from my experience that physicians are too prone to hesitate about making pelvic examinations rather than to make them too frequently. I have been very forcibly impressed that this is true by a patient who came to me in the past few weeks from a neighboring town, with a history of great nervousness and mental depression for the past two years, a part of that time having been spent in a sanitarium for mental diseases. This patient was a very bright student, a graduate of one of the normal schools of the state, and had taught, but for two years had been in this state of depression. The mother, who came with her to me, said that just for a few weeks she had wondered whether there was somethoing wrong with the womb. I questioned them carefully with regard to falls, and so forth, and they remembered that before she was ill she had slipped down-stairs, but they had not associated the fact in any way with her

ill-health, and none of the physicians who had attended her had even hinted that it was necessary to make a pelvic examination. Such an examination revealed an adherent clitoris and a retroverted uterus and a very hyper-sensitive condition of the vagina and all the organs; so much so that I told the mother it was useless to attempt medical treatment. Surgical treatment offered a better chance for her. She was operated upon at the Benedictine Sanitarium, Kingston, by Dr. Mark O'Meara. A currettage and anterior fixation of the uterus was done, small cysts of the right ovary were punctured, the clitoris freed from adhesions, and as the appendix was found diseased it was removed. She is making a good recovery and all of her nervous symptoms are greatly improved. We hope that after a period of time she will be restored to a useful life.

When women complain of backache, urinary disturbances, constipation, menstrual disturbances, changes in shape, and great nervousness and mental disturbances, it is a very safe thing to make a pelvic examination. If new growths or other abnormal pelvic conditions can be excluded no harm has been done to the patient, whereas if some abnormality has already developed it is to be hoped that it has been discovered in time to give the surgeon a fair chance to cure the patient.

I have been frequently made soul sick by having a patient come to my office with the statement that Dr. So-or-so had said she had a "displacement of the womb," and, upon examination, found the uterus a cancerous mass, the walls of the vagina, bladder and rectum thickened and infiltrated with the same tissue. A very sad case of this kind was brought to me by a young minister, the patient being his mother, aged sixty-five. He could not believe me when I told him there was no cure for his mother, as she had advanced uterine cancer. They lived in an adjoining state, and he said two physicians at home had assured him that there was nothing wrong but a displacement. I called in a consultant, who confirmed my diagnosis, but the young man still was not convinced and he took his mother to the New York Polyclinic, where Dr. John A. Wyeth did some palliative curretting to stop the hemorrhages. She died in great agony in a few months.

Patients will not always follow good medical advice when it is given, the plausible promises of the quack are more pleasing to them than the truth, and they listen to their sorrow.

A physician in a neighboring town called me in consultation as the results of treatment of a patient which had not been satisfactory. The examination revealed the cervix a cancerous mass, but as far as I could determine the disease was still localized in the uterus. I urged the physician to call a surgeon and this was done. I afterward learned from the surgeon that he wished to operate as soon as the necessary arrangements could be made, but the family wanted a few days to think the matter over. The way they thought it over was to consult a quack, who told them it was all nonsense, she did not have a cancer at all, it was all inflammation and he could cure her by local treatment. I do not know the nature of the treatment but he kept on until the patient grew alarmed for she realized she was getting worse. So she sent for the same surgeon again and wanted him to operate, but he refused, for he said the disease had made such progress that there was no hope of cure. This woman lost her chance for life through her own foolishness, not through the ignorance or dishonesty of her own physician or the consultants.

There is no curative treatment for new growths in the pelvis but surgical, and some other abnormalities are also best treated surgically. There are very good reasons for believing that there is some prophylactic treatment which is medical and effective. Good authorities claim that cancer of the uterus is more frequent among the very poor classes of women than among the well-to-do, and is it not reasonable to suppose that the better sanitary conditions and better food of the latter have something to do with this. If a woman in comfortable circumstances has metritis or displacement or any minor trouble she is more likely to consult a physician and receive proper treatment while it is curable. The poor woman struggles along with hard labor, poor food, no medical attention, until the continued irritation by slow process changes the once typical cells to an atypical development of cells and cancer has begun.

I have never examined a case of uterine cancer which did not give the history of there having been leucorrhea and inflammations for years, and from our present knowledge of the pathology of cancer it could not have existed as such all these years. I heard Dr. T. Addis Emmett say, when operating for laceration of the cervix, that he had never known cancer of the cervix to develop in the uterus which had not been lacerated by child birth, either full term or abortion. If this is true it seems as though the prophylaxis of uterine cancer consisted in the repair of all lacerations of the genital tract, appropriate treatment for any inflammatory conditions and in keeping the general health up to the normal standard. I know of no prophylactic treatment for ovarian tumors and uterine fibromata. Early diagnosis and radical operation is the only curative treatment. It is a question whether all fibroids should be operated on. I make it a rule to observe them, if small, and if they begin to increase in size to advise operation. I have had a good many cases which did not produce serious symptoms and did not grow. In such cases I hesitate to advise operation, but I do in-

form the patient that they need to be kept under observation as long as they live; for it is not true that fibroids always atrophy at the menopause, although this satisfactory termination frequently results. Occasionally fibroids develop after the menopause, as in the following instance: A woman past sixty came to my office for examination with the following history: She had always been in good health, given birth to two children normally, passed through the change without any trouble. About two years prior to her coming to me she had developed symptoms which led her physician to examine her and he then told her that she had a tumor the size of an egg in the posterior walls of the uterus, but not to worry as it would not amount to anything. She went on a few months, hoping to get over it, but as she grew worse she consulted another physician. He told her that she had a fibroid tumor and a cancerous sore at the mouth of the womb. He treated her in various ways for some months until she became discouraged and came to me for an examination. The uterus was a fibroid mass as large as it would be at full term of pregnancy and the cervix was broken-down and ulcerating. I explained the utter hopelessness of trying medical treatment and the all but utter hopelessness of surgical treatment in her case, so she decided to live as long as she could. She died after months of dreadful suffering.

I do not believe that a physician is ever justified in saying that a fibroid tumor does not amount to anything, for there is always a possibility of their taking on a rapid growth and undergoing malignant degeneration.

Nearly all physicians recognize the importance of early operation in cases of extra-uterine pregnancy and pustubes. With the possible exception of small, stationary fibroids, I believe the earlier the diagnosis and operation in all serious pelvic lesions the greater will be the number of lives restored to health and usefulness. This is especially true of new growth, for the shock is so much less when they are small, with few adhesions, and the body has not been slowly poisoned by the toxemia elaborated in their growth. It takes time to separate adhesions without killing the patient by so doing. Everything which lengthens the anesthesia lessens the chance for the patient to live.

Surgery has accomplished some wonderful results, even when the operative conditions have been diagnosed late and many complications were present. But I believe the mortality rate can still be decreased one-half when all physicians realize the importance of an early diagnosis and give the surgeon an opportunity to do his work under the favorable conditions of little or no toxemia, few if any adhesions, and a short anesthesia.

THE VEIN SIGN IN ABDOMINAL INFLAMMATIONS.*

By W. W. SKINNER, M.D.,
GENEVA, N. Y.

IN one of my earlier operations for appendicitis I observed in making the incision near McBurney's point that the subcutaneous and deeper veins presented a dark and swollen appearance which I ascribed to their being tinged by the products of inflammation. So striking was this appearance that I remarked to the physicians assisting me that we must be approaching a center of inflammation and a moment later found an inflamed and lymph-covered appendix surrounded by a quantity of pus.

In my next case, a young man suffering with an attack of appendicitis of twenty-three hours' duration, I was aided in making the diagnosis in the presence of rather obscure symptoms of general abdominal pain, vomiting, and little, if any localized muscular rigidity, by carefully observing the condition of the superficial abdominal veins.

Placing the patient in a good light, and gently stretching the skin of the various parts of the abdominal wall in order to enhance its transparency by obliterating the minute corrugations which are the chief cause of its opacity, I was able to observe with ease the color and condition of the subcutaneous veins. On examining the various areas, right and left, above and below, I discovered a darkened network of subcutaneous veins having for their center the appendiceal region and gradually shading off in the periphery as that center was left behind.

Accordingly I prepared the patient for operation and removed an appendix which was angry and swollen and contained a concretion about as large as a bean.

Since that time I have never attempted any operative procedure on the appendix, or indeed in any inflammatory intra-abdominal condition, without subjecting the subcutaneous veins to the most careful scrutiny in a good light with the skin gently stretched in successive areas.

Repeated and careful observations, extending now over a period of more than nineteen years, have convinced me that this venous darkening furnishes one of the most valuable and accurate localizing signs in intra-abdominal inflammation which we possess: a sign incapable of simulation and independent in its records and manifestations alike of systemic, nervous and psychic conditions.

Having discovered empirically the uniform relationship between appendiceal inflammation and darkened superficial veins, it soon occurred to me to make a series of observations as to the behavior of the veins in cases of inflammation occurring in other parts of the abdominal cavity,

* Read before the Rochester Academy of Medicine, at Rochester, N. Y., February 16, 1910.

with a view to extending the diagnostic value of the sign. The result has been that while for certain anatomical reasons the darkening of the superficial veins in other regions is less marked and less obviously localized than over the appendix, yet, by careful search of the entire abdominal surface, with due attention to the anatomical relationships of the venous anastomoses, one is usually able by this sign alone to determine the particular area near which the focus of inflammation will be found—though, of course, the exact determination of the particular structure involved may remain conjectural. For instance, in one case of venous darkening occupying the exact area involved in appendiceal inflammation, the case proved to be one of normal appendix with a perforating ulcer of the cæcum less than one inch from the base of the appendix. This ulcer was covered in by omentum thus forming a feculent pus pocket alongside the cæcum; but the vein sign had served to locate the trouble in its proper area though it had failed to point out the exact structure involved.

I will briefly enumerate the various areas of venous darkening as I have found them:

In appendiceal inflammation the vein (or veins) which run upward from a point just internal to the anterior superior spine of the ilium, almost parallel with the outer border of the right rectus muscle, together with its branches, are the ones chiefly involved.

In ulcerative conditions of the sigmoid flexure the veins of the left side of corresponding location are affected.

In inflammations of the Fallopian tube and of other tissues and structures enclosed in its broad ligament the veins below Poupart's ligament converging toward a point just external to the femoral ring are darkened when compared with those above Poupart's ligament.

In cases of septic collections or pus pools in Douglass' cul-de-sac darkened veins above Poupart's ligament on both sides of the abdomen are found.

In acute inflammations of the pelvis of the kidney or ureter I have several times found a darkened vein along the outer border of the quadratus lumborum. In this region my observations have been confined to a few cases only.

In a comparatively recent case in the Geneva City Hospital in which I was called in consultation by Dr. W. W. Hopkins, of Geneva, the pains were of such character as to suggest biliary colic or catarrhal appendicitis. Here the absence of venous darkening over the appendix and over the gall bladder region, together with its presence along the outer border of the quadratus, decided my diagnosis in favor of renal irritation and caused me to decide against operation. The following night my reliance on the vein sign was justified by the passage of a quantity of sand and a stain of blood with the urine with entire relief of the symptoms.

Regarding the anatomical problems involved in this connection, I wish merely to refer to a few points in the special anatomy of the veins of the appendix and cæcum. The principal venous drainage of the appendix is accomplished through the appendiceal vein which joins the ileocolic about an inch above the ileocæcal junction.

In conformity with the law of evolution that the more important structures are the better protected, the appendiceal vien has sought a more sheltered location than the artery; since the appendix being a dispensable organ its preservation is less important than the protection of other organs from its infective products. Hence the appendiceal vein is found nestled between the artery and the appendix in the safe layers of the mesenteriolum. Not only is drainage thus protected, but besides the venous anastomoses are much more numerous than the arterial. Thus is thrombosis of the vein prevented until the last possible moment. When, however, thrombosis of the appendiceal vein does occur its extension to the ileocolic and thus to the mesenterics is by a curious means prevented.

Just at the base of the mesappendix there is a strongly developed layer of connective tissue, the continuation of the ring of circular muscular fibres which in the developmental period formed the limiting mould which dwarfed the appendix as compared with the cæcum. This connective tissue band is perforated to transmit the artery and vein. Now, when a venous thrombus has filled the vein spontaneous ligation is performed at this point, the further extension of the thrombus is prevented and thus the catastrophe of mesenteric and portal thrombosis is averted.

Another means of protection of the important abdominal organs also exists, which is as follows: when the poisoned stream of blood pouring through the mesenterics and portal becomes positively dangerous, the delicate structures of the liver begin to swell and shut the gates in that direction. The engorged mesenterics then begin to overflow into their anastomotics, the lumbar, diaphragmatic and other veins; hence one source of contamination of the anterior abdominal veins.

Certain facts; however, have convinced me that a portion of the contamination of the veins of the anterior abdominal wall comes directly from the capillaries of that surface of parietal peritoneum which is contiguous to the pool of toxic serum which forms about the inflamed appendix. The contaminated blood then reaches the superficial veins through the medium of the several perforating veins which pierce the anterior abdominal wall.

Another practical observation is that extensions of peritoneal contamination to the pelvic or other regions of the abdominal cavity may be

diagnosed by extension of venous darkening over those regions. By this means the presence of serum or pus pools in the pelvis requiring the use of a drain suitable for their evacuation has often been foretold before opening the abdomen.

In order to estimate the comparative value of the vein sign it is necessary first to inquire into the value of the classical signs of appendicitis hitherto employed. The first of the classical signs is pain—a subjective symptom—and one capable of as great variation as the characters of the nervous systems which perceive or invent it. The second sign is muscular rigidity in the right lower abdomen. This sign has been observed not only in appendicitis but in such widely separated lesions as central pneumonia, diaphragmatic pleurisy, epididimitis and renal calculus. Then comes McBurney's point of localized tenderness. Several times I have seen this simulated by lower intercostal neuralgia and by rheumatic inflammation of the spermatic cord. All of these signs have several times been simulated by hysterical women in cases which I have seen in consultation and where the presence or absence of the vein sign has determined the diagnosis.

In the beginning of typhoid fever we frequently find the peculiar right iliac pains, tenderness and muscular rigidity; but careful inspection of the subcutaneous veins shows an utter lack of localized venous darkening. On the contrary, in typhoid the venous darkening is present diffusely over the whole lower abdomen, showing a more widespread venous contamination of less intensity, usually.

In cases of typhoid accompanied by considerable tympanites the stretching of the abdominal wall and of its traversing veins causes a narrowing of the venous calibre and a lessening of the darkening by diminishing the volume of blood under observation. But the subsidence of the tympanites is followed by the reappearance of the diffuse venous network.

One word as to the character of the venous appearances. While I have sometimes spoken of these veins as dilated I well know that that term does not express the conditions. The veins appear broader because the darkened blood contained within their lumen is more widely visible—a smaller amount, or rather, a thinner stratum being visible. The condition is readily differentiated by a practiced eye from that left by an old phlebitis. The condition which follows phlebitis is true dilatation and is accompanied as well by lengthening and resulting tortuosity. These veins are not tortuous; but instead are normally straight. They are rendered visible by the dark asphyxiated blood cells alone; and the discoloration disappears with the last vestige of inflammation.

SOME OLD TRUTHS ABOUT INFANT FEEDING WORTH REPEATING.*

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YOU will see from the title of this paper that you must not expect anything new or original from me, and in order to avoid any accusation of plagiarism, I want to acknowledge right here my indebtedness to a large number of authors, the perusal of whose writings, at one time or another, undoubtedly has left its impression on my way of thinking.

As the subject of infant feeding is predominant in pediatric literature at the present time and as the diversity of opinions and methods of the different schools of pediatrists tends to make this important branch of our daily practice difficult for the general practitioner, I decided to give you in this short discourse, a few of the things which have proved themselves to me to be of the greatest value in this particular line of work and to emphasize at the same time that it is not always the latest and most startling which will be proven to be the simplest and best in the long run.

1. First of all let me emphasize the most essential point in infant feeding and one that cannot be brought forward often enough, namely, that there is only one natural food for the human young during the first nine months of extrauterine life, "human milk," and that all other foods can be and are, only poor substitutes and form an unnatural food.

I advocate with others that we substitute the term unnatural feeding for that of artificial feeding because we thus emphasize still more its natural limitations.

Aside from being the only physiological food for infants, mother's milk, being homogeneous, imparts to the nursling a certain amount of immunity through the anti-bodies contained in the mother's blood and the fact that most mothers have had at some time or other measles, diphtheria, etc., explains why nursing infants are so rarely attacked by some of these infectious diseases.

Cow's milk, the usual substitute for human milk, is a heterogeneous food for the human young and while it can impart immunity to the calf it will never do so to the human being.

If we will only make an honest effort and insist on our patients nursing their infants and if we will not accept the frequent flimsy excuses brought forward by misguided or selfish women, who think more of their pleasure than of their duty, excuses by the way, which we often accept against our better knowledge and as a balm to our own conscience. If we thus do our full duty towards our little

* Read at the annual meeting of the Eighth District Branch, at Buffalo, September 27, 1910.

patients, we will find that infant morbidity and mortality will be materially reduced, not only during the nursing period but also during the subsequent years, when we will find infants who have been breast-fed to be more resistant against the infectious diseases of children.

Do not let us be discouraged if the baby does not get enough food from its mother by the end of the first week, but let us persist in trying, and sometimes we will see an abundant supply of breast-milk established as late as the end of the sixth week, and furthermore do not let us forget that a partial supply of breast-milk once or twice daily, an *allaitment mixte* as the French call it, is far superior to unnatural feeding altogether.

One point which will help in establishing a good milk supply is regularity in feeding. Do not offer the breasts at all during the first 24 hours, the infant does not require anything during this time further than rest and so does the mother. Put it to the breast twice during the second 24 hours, three times during the third, and from then on not oftener than every three hours in the day time and twice at night, until the infant has completed its sixth week of extrauterine life, when you put it on four hour intervals.

Formerly I had my little charges taken up from sleep so as to get them trained to regular habits of life, but of late I have given this up and find my results better. The key note in infant feeding, natural as well as unnatural, is to guard against overfeeding, because this is the one principal cause of digestive disturbances.

One word here about the examination of breast-milk. The best criterion of the quality and quantity of the infant's food is its weight chart. If you want to know if the baby gets a sufficient amount have it weighed before and after each feeding. The usual method of testing the mother's milk as to its quality by taking a sample of this milk and examining it either chemically or under the microscope is nothing but a deception of ourselves or our clients or both. The breast-milk differs materially at each nursing and during each nursing the amount of cream varies frequently from 1 per cent. at the beginning to 6 per cent. at the end of the nursing and to get a real bona fide analysis, we have to take a certain equal amount of breast-milk at the beginning and end of each and every nursing during 24 hours, mixing the samples thoroughly and then analyze the mixture, this is by no means as difficult as it may sound.

2. The mother or attendant is one of the most important factors in the unnatural feeding of infants and deserves a few words. We get the best results with conscientious mothers of moderate intelligence or with trained nurses who do not specialize for children. The sloven or almost half-witted woman cannot be made to do as told, nor will the foreigner do so as long as she lives in the slums. But fortunately these women are usually able to nurse their infants. On the other hand, the educated woman or the college bred woman with her first baby is a difficult case to handle. She has usually read a great deal on the subject and has formed an opinion often quite in opposition to her medical adviser and would rather follow the printed advice of Holt or Winters or someone else. With her second baby things are usually easier. After she has had her troubles with her first born and has experimented on him to her heart's content, or even lost him, she will be quite willing to listen to you. Worse even than the book-fed mother is the nurse, trained and untrained, who makes infants her specialty. She will always tell how she saved the life of baby so and so, or what Professor X did for another baby, and you know unfortunately we cannot all be professors. She usually has a grip full of samples and pamphlets and would rather do anything than what you tell her.

The worst pest we have to contend with in our practice are the old women, those wearing skirts and others, inside the family and out, who make it their business to harass the poor mother with their gratuitous advice and are constantly trying to counteract the physicians orders, which they consider nothing but dross. Not long ago a mother 'phoned me to tell me that she had changed her address. She was the wife of a workingman who owned his home but she preferred to live in a rented place in a different locality to having the neighbors come in and tell her that she was killing her child by the starvation route, because she would not feed it every time it cried.

3. Next in importance comes the milk supply. We have learned that all the sterilizing and pasteurizing will not make a wholesome food out of a carelessly produced and preserved milk. We have to pay more attention to the condition of the dairy, and in my opinion, strict regulations should be passed by our legislature to amend this condition. Another point we have learned of late is that we cannot expect good results from the milk of any old variety of cows and that greater attention should be paid to the breeding of cattle for this purpose. In my opinion, the Holstein Friesian breed which gives a milk with a uniform percentage of ca. 3 per cent. cream is the best for our purpose. These cattle are also quite resistant to tubercular infection, and as they are good milkers and well acclimated it would pay the dairymen

to adopt them as standard cattle. Milk from these healthy, tuberculin tested cattle should be delivered twice daily, and if it is produced under the best hygienic conditions we can do away with all methods of sterilization. I would not think it necessary to remind you that the old idea of giving one cow's milk has been proven fallacious, but whilst writing this paper my attention has been called to a case where a well known physician has sent an infant to a country place and put it on one cow's milk, and where this as well as another baby getting the milk from this one cow was made dangerously ill.

Some day in the near future, I expect to have a dairy of my own right in our city, partly to supply my little patients with a wholesome food and partly as an object lesson to other dairymen. Connected with the dairy will be a laboratory in charge of a nurse trained in surgical cleanliness, who will know how to prepare all foods according to the prescriptions sent in by physicians.

4. As to the last point, what we may consider a sensible food for a healthy young infant, we will naturally get a great diversity of opinion according to which school we have been brought up in or have elected to follow. I personally was brought up in what I may term the milk-water-milk-sugar school of Heubner, and I was also an advocate of the top milk mixture according to Holt and others until my poor results forced me to look around for something better and safer. I can date my improved results from the time when I finally and fully adopted the teachings of Abraham Jacobi. Though I am a fairly assiduous student of medical and especially pediatric literature, it was not until I had read his paper on "The Gospel of Top Milk," delivered at the 1908 meeting of the American Medical Association, that I began to see where lay the cause of my many failures. I have since taken up the careful study of the writings of this great pediatrist covering a period of more than half a century and not only have I been well repaid by many an hour of delectable reading but my little patients have been the gainers in added comfort and good health.

I hardly need tell you that the key note of Jacobi's infant feeding is whole milk containing not more than 3 per cent. cream diluted with cereal water or gruel made from the whole grain and of varying strength, according to age, and cane sugar. Barley is the grain usually chosen, but in cases of constipation, he uses oats instead.

Whatever the mixture or food you prescribe, it is essential that you should write a regular prescription in plain, every day English with minute directions as to its mode of preparation, and that you give this to the mother, and furthermore, that you write a new prescription every time you make the least change in any of the ingredients of the food. Another essential is to make it as easy as possible for the mother to procure all the necessary ingredients and for this purpose you must be well acquainted with the products of the different dairies and you must know where she can get the most suitable cereals for infant feeding. Lately I have kept on hand, a good store of different gruel flours to supply to mothers, and I find that this works better than leaving the choice to the mother or the grocer.

Do not misunderstand me, I do not want to say that this is the only kind of food which will agree with a healthy baby, but from my experience I can state that it is the simplest and best and one that gives uniformly good results.

We now have to consider the *crux medicorum,* the feeding of infants with digestive troubles. The worst form of which we will see as long as mothers, and even some physicians, believe that they may be caused by teething. We all know from the teachings of Czerny and Keller that these troubles are caused by overfeeding with one or more constituents of the infant's food and in beginning the treatment of these cases it behooves us to find out which element of food is to be regarded as the offending one. This can only be done by getting a most complete and detailed history of the case and by examination of the stools. Of the different forms of food injuries, either of two is mostly found, either the fat or carbohydrate injury. The former will usually be found in babies brought up on the top milk mixtures according to Holt, Chapin, Winters and others, and it used to be more frequent than it is now when a large number of the medical profession have given up the stuffing with cream for the sound teachings of Abraham Jacobi and Finkelstein.

As to the carbohydrate injury, this we still frequently see and will see as long as proprietary foods have a place in infant feeding. I, personally, pride myself on the fact that for a number of years I have not used a single one of these proprietary articles, and many are the discussions I have had with some of my medical friends on this same question, but I still insist that if I am not able to find a composition of food elements better suited to the individual case in hand than the ready made foods in the market, then I should better give up this part of my practice. As to the principle of giving proprietary foods, I can do no better than quote verbatim what Jacobi wrote in 1887.

("When an adult sits down to a meal and finds placed before him articles of food with

which he is not familiar, he makes inquiries in regard to such articles before eating them. The baby, however, is credulously fed upon things with which the child, father, mother, or doctor has not the least familiarity; many of which have a composition unknown to the public, although sold in large quantities. When some manufacturers deign to say anything about their merchandise, it is to the effect that the food offered is the best in the market, that it is the proper thing and only thing for children and invalids of all ages, that the relation of the albuminous substances to carbohydrates is exactly correct, and that a package costs a certain amount of money. In regard to this subject the public appear to be smitten with absolute blindness. They insist upon forgetting that the man who offers for sale, and advertises at a very heavy expense, does so, as society is constituted, for his own pecuniary advantage. To say that if the article offered is not good, it will find no market, is deceiving ourselves, experimenting on our babies, relying on the character of a single man or corporation, on the honesty or intelligence of the manufacturer's chemist, or superintendent, or his workmen, on the nature and condition of the elements used in the composition of the article, and on ever so many influences which can work before the manufactured article gets into the hands of the consumer. Why the sellers and advertisers of unknown compounds should be more trusted than those who sell a simple article of food, such as milk, which is constantly adulterated, can hardly be perceived. Is it necessary to say that the factory furnace is lighted more in the interest of the proprietor than the benefit of the public?")

In these cases of infantile alimentary intoxication of shorter or longer duration, we always have to begin with a day or two of starvation with nothing but castor oil and weak tea sweetened with saccharine, and I have time and again seen a poor dried out, puny youngster gain as much as 8 ounces in 24 hours on this alone. Then we are confronted with the question, what to use as the initial food, and we will find to our sorrow that frequently we have to try different foods before we find one that will agree with our little patient even in small amounts.

We hear and read at the present time a great deal about percentage feeding and caloric feeding and other hyper-scientific ways of getting a formula for the feeding of sick infants but in practice the most obvious desideratum is to find first of all something in the shape of a food regardless of its caloric or nutritive value that the baby can keep down and which it can assimilate, and only when the baby is once on the high road to recovery, will we have time to think of getting food up to the standard, according to the patient's weight and age.

It is hardly necessary to state that in many of these cases good human milk is all that is required. Where this cannot be procured, or where it does not agree on account of its contents of cream, I have found peptonized skim milk, buttermilk soup, or skim milk diluted with broth to be almost universally successful, also dextrinized gruel and peptonized skim milk, which I call home-made malted milk. I have not yet had any experience with Finkelstein and Meyer's albumen milk. Lately I have also started to use soy bean gruel in cases of carbohydrate injury. This contains 44 per cent. proteid, 20 per cent. fat, 10 per cent. cane sugar and no starch, and it seems to me to act well. The skim milk is prepared at home by syphoning out the lower half of a quart bottle which has stood for not less than four hours. Buttermilk not being in the market at all times or not being good when bought, I have it either churned at home, and in some instances mothers have bought small churns like the ones farmer's children play with, or I have ordered boiled skim milk to be inoculated with a pure strain of lactic acid bacilli. The broth is prepared with ½ pound of meat, beef or veal, to a pint of water and kept up to a pint. In some cases I have also had good results with carrot soup and Mery's vegetable broth.

Only when the little patient has been doing well for sometime do you begin to add cream to the food, only a few drops to the bottle, and I well remember one little patient in particular who could not take more than ¾ dram to a bottle and who reacted with a loss in weight everytime I tried to give him more.

Except in cases which are combined with eczema, salt is a very necessary adjunct to the food.

When the infant is well able to take care of its food do I begin to consider its caloric value, bringing it up to the proper proportions by increasing the amount of cereal flours and sugar, either maltose or cane sugar. In old neglected cases or in refractory cases, weeks and even months will usually elapse before we can think of giving the little patients the food required by their age and weight.

I am afraid, ladies and gentlemen, that I have wearied you too long with my recital of old and trite things, about which to speak, many of you are undoubtedly better qualified than I am. I may offer as my excuse the fact that I am greatly interested in this subject and that it is my hope that in starting a lively discussion on this theme I may learn a great many valuable things.

FIBROID UTERUS DIDELPHYS.*

By JAMES B. CONANT, M.D.,
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I DESIRE to present an unusual case of a fibroma of a double uterus.

Malformations of the uterus are more frequent than was formerly supposed.

Kussmaul[1], in 1859, remarked that the double uterus was found only in the still born, associated with other deformities, especially atresia ani.

More recent writers hold a different view. Kelly[2] says that cases of double uterus are not rare. Clark[3] says, "In view of the peculiar development of the uterus through the fusion of the lower uterine segments of the Mullerian bodies to form one uterine cavity, it is suprising that malformations are so infrequent, especially when animals in the higher evolutionary scale such as the cat, dog and pig all have bicornate uteri."

Ricketts[4], in writing extensively upon the subject, remarked that anomalies of the uterus are very common.

Dorland[5] found three cases of uterine anomalies in 3,500 women examined.

In 1890 Dunning[6] reported having collected 271 cases of double uterus.

At the present time over four hundred writers[7 8 9] have contributed one or more cases to the literature of the subject.

The majority of the cases are reported on account of some special interesting feature that goes with the condition of double uterus.

There are three conditions of the double uterus which have received a large amount of attention and which are associated with enlargement of the anomalous organ. They are pregnancy, hæmatometra and new growths.

While pregnancy does occur, sterility is commonly[10] met with. When the uterus has become pregnant it is prone to miscarry. To overcome this it has been proposed to divide the septum of the uterus and the septum of the vagina, when such exists, and convert a uterus with two cavities and two cervices into a uterus with one cavity and one cervix.[11] However, a great many untreated didelphic uteri have gone to full term and have given birth to living children. A number of twin pregnancies have been reported[12], and triplets have been born in one instance, in a bicornate uterus.[13]

Dunning, in summarizing the records of 271 cases of double uterus reported previous to 1890, found that less than half had never become pregnant. Of those who did become pregnant, 40 per cent. miscarried[14], and of those who went to full term the mortality rate was 19.4 per cent.[4] The chief causes of death were rupture of the uterus and hæmorrhage.

Hæmatometra is not an unusual complication of the double uterus.[15] It is caused by retention of menstrual fluid due to atresia of the cervix. Atresia may show itself first at puberty. It may, however, develop later in life, and what is more peculiar may develop after labor. Hæmatometra has simulated a fibroid tumor of the uterus[16] and it is sometimes difficult to differentiate from this condition. Given a single vagina and a single cervix, a slow growing globular tumor, excluding pregnancy, which is a part of the uterine body, indicates a neoplasm, provided we do not overlook the fact that it might be a case of hæmatometra of one side of a double uterus with atresia of its cervix. Such oversights have occurred.

New growths of the double uterus are comparatively rare. Cancer has been reported in a few instances.[17]

The writer has been able to collect the record of ten cases of fibroma of a double uterus as follows:

Pollasson[18], Pauchet[19] and Galabin[20] each reported a case of a fibroma of one uterus only.

Clay[21] and Wagner[22] each reported multiple tumors of both uteri.

Foisey[23] and one other[24] each reported subperitoneal fibromata.

Lewers[25] and Ricketts[4] each reported a submucous fibroma in a double uterus.

Clark[3] performed a hysterectomy for a large intra-mural fibroma and after the tumor was removed, it was found to be associated with a double uterus.

The case presented here to-day happens to be the only intra-mural mono-fibroma of a double uterus diagnosed as such.

The history is as follows:

On December 6, 1909, Mrs. J. S. presented herself. She is a short, stout woman, aged 43, and has been married twenty years. When she was young she personally discovered that she had two vaginal passages, but did not know that there was anything unusual about this condition. There is nothing in her family history that bears any relationship to the anomaly. She has always menstruated regularly and normally since twelve years of age. She has never been pregnant. Thirteen years ago she had an attack of pelvic cellulitis and her physician, Dr. Stover, discovered the condition of double uterus. He has kindly loaned me the record made at that time. He noted the didelphic type of uterus antero-posteriorly arranged. The fundus seemed more as one mass, but for some distance the sulcus between the cervices could be outlined. The uterus was small even being double.

Twelve years ago an attack of appendicitis confined her to her bed for five weeks.

* Read before the Fourth District Branch of the Medical Society of the State of New York, Schenectady, September 27, 1910.

For the past ten years she has had some gastric distress after eating and she has had attacks of sick headache which last a day or two, during which she is nauseated and she vomits.

For the past four years she has had a slight leucorrhœa.

For the past six months she tires easily on exertion, and her menstruation has been scanty although regular.

Five months ago while she was having some abdominal massage for obesity, the masseuse noticed a small, hard mass in the lower part of the abdomen. One week ago she personally noticed the mass.

Examination discloses a double vagina. The partition runs from side to side. There are two cervices, one anterior, the other posterior. There is a large round and hard mass occupying the pelvis and extending half way up to the navel. It projects downward into the anterior vagina. It is movable and very hard and is a part of the uterus. Diagnosis: intramural fibroma.

The heart and lungs are normal, there are no pressure symptoms from the growth and the urine is negative.

On December 8th a hysterectomy was performed. Some difficulty was experienced in getting the mass out on account of adhesions and its filling the pelvis so completely. The uterus was found rotated. The left broad ligament entered the anterior surface of the mass, the right broad ligament the posterior. Both ovaries were normal and were left in place. After removing the mass, the round ligaments were sewed into the stump of the cervix and the pelvic peritoneum was brought together to cover up all raw surfaces. The appendix was normal. A gall stone was found in a small contracted gall bladder. Neither were removed.

She reacted well after the operation, retained her salines, but her pulse slowly increased in rapidity. Six hours after her operation it was 120, and twelve hours after it was 140. Twenty-four hours after it was 160. She had taken in the first twelve hours two quarts of saline, according to Murphy's method.

In spite of her very rapid heart action she looked well and she said she felt well. The heart, lungs, kidneys, abdomen and pelvis were negative. She was not a neurasthenic type of an individual, and her thyroid gland was not enlarged.

For three days her pulse rate remained between 120 and 150. Temperature between 98.4 and 100.1. The condition was not influenced by posture, gastric and colonic lavage and the usual list of cardiac stimulants.

On the fourth day after her operation her pulse slowly dropped to 100 and later to normal, and except for a slight temperature which she carried for six weeks, she had an uninterrupted convalescence.

The rapid heart action was attributed to too much saline. The temperature was not satisfactorily explained.

To-day she is well and strong. She has little trouble with her stomach, in spite of the gall stone which she carries, and rarely has a headache.

Pathological Report by O. H. Stansfield.

The fibroma and double uterus weigh two and a half pounds. The tumor belongs to the class of fibroma durum. It is five inches in its longest diameter, which is nearly vertical, and about four inches in its other two diameters. It seems to spring from the right lateral junction of one uterus with the other. The left tube enters the anterior surface of the mass and goes to the left uterus which is anterior. The right tube goes to the posterior and larger uterus.

Under the microscope the uterine muscularis appears normal. There is no sign of degeneration or compression atrophy, neither is there an increase of fibrous tissue between the muscle fibers.

The mucosa shows a cloudy swelling. The cells are indistinct in outline, very granular and the nuclei are obscured. The cells lining the submucous glands are desquamated.

The fibroma is composed entirely of white fibrous tissue. There are no elastic fibers or fat present. Certain areas have undergone calcareous degeneration. This can be felt in the gross and the microscope shows areas of 1 to 4 microms in diameter of calcareous deposits.

Right Side of Specimen—The Fibroma has been deeply incised.

LEFT SIDE OF SPECIMEN—SMALL UTERUS ANTERIOR, LARGE UTERUS POSTERIOR.

Conclusion.

The voluminous literature of double uterus brings out the fact that the condition is not rare and that it is usually discovered by accident.

Enlargements of the double uterus are frequently met with. Pregnancy and hæmatometra are the most common causes. The latter is apt to simulate an intra-mural fibroma.

There has never been a diagnosis of a large intra-mural mono-fibroma of a double uterus substantiated, with the exception of the present case. All others have proven to be cases of hæmatometra.

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OBSERVATIONS ON THE USE OF ANTITOXIN IN ASTHMA.

By HOWARD R. PARKER, M.D.,
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BRONCHIAL asthma is a disease which means a trial to the physician as well as to the patient. I think I am not far from correct, when I say the only physicians who are to-day satisfied with their knowledge of asthma are those who are always satisfied with their knowledge of a disease, call it an incurable neurosis and try only to relieve symptoms.

I was recently discussing asthma with a successful practitioner who said, "I give all my asthmatics K. I. and treat them for bronchitis, and believe I am more successful than the average man in these cases." Unscientific and illogical as this may be, it is a plain statement of a method fully as scientific and logical as many of our asthmatics get.

At our state meeting in 1909 we heard reported a post mortem on a case dying during an acute attack which showed the bronchial tubes in a normal condition. Other cases have shown a congested condition of the bronchial membranes, and so whether it is a pure neurosis or a neurotic hyperemia remains to be proven. We are certain that in the nervous system lies the greatest causative factor. Often inherited it is only logical to place its cause on some body depravity what we know not, but we seldom find an asthmatic in prime general health. Tonics and other measures to improve general bodily vigor help asthmatics in making attacks less frequent or less severe. In many asthmatics, if not a majority, we can find existing pathological conditions, relief of which help the asthma. No cure having yet been found we readily turn to diphtheria antitoxin. A number of cases of cures as well as of failures have been reported. But if antitoxin really cures asthma ought not the opsonic theory come to our aid in explaining it?

Dr. Gillett reported thirty cases, fatal or

nearly fatal following the use of antitoxin mostly in asthmatic cases and concluded there was great danger in its use. Any of us, however enthusiastic in its use we may be now, would doubtless feel as he does if one of those cases fell to us. He still believes that antitoxin will cure 50 per cent. of the cases of asthma. This percentage seems high to me and yet if it will cure one case why will it not cure them all?

I will report my observations on five cases of asthma which I treated with antitoxin:

Case I.—Mr. R., age 48, merchant, married, had asthma twenty years, has gradually grown worse. Extremely nervous and apt to be melancholy, in bad general condition. He could not tell what brought on the attacks except that in certain places he suffered more than in others. Odor of stable always made breathing more labored. He was at first given hydriatic treatment and electricity. Nothing seemed to do any good except the salt rub followed by hot spray to spine and chest. This relieved him and kept him free for about one week then it returned after which the treatment would relieve him for only about an hour at a time. He was always free from asthma while he remained at the seashore not over sixty rods from the house. Finally as an experiment he was given 3,000 units antitoxin serum in buttocks at three in the afternoon. Giving no immediate effect he was bolstered up in bed and the room filled with smoke of stramonium. He made no calls for nurse or doctor during night, but reported in the morning a very severe attack of asthma about 10 P. M. He kept in bad asthmatic condition until the sixth day when rheumatic pains became severe and urticaria covered body on eighth day. As urticaria appeared he began to feel better and in twenty-four hours asthma had disappeared but the urticaria remained for three days, when body became clear of this he was allowed up and had no more asthma. Hydrotherapy, electricity and tonics were given and he gained from 115 pounds to 154 pounds. After this he worked hard did not look after his health and became badly run down again with much loss of weight, asthma following as bad as ever eight months after treatment.

Case II.—Mr. A. B., drummer, single, nervous and melancholy. Asthma fifteen years. Was quite free during winter. Odor of roses brings on an attack. Some hotels bring on an attack if he attempts to sleep there. Came in for surgical treatment and I gave 3,000 units antitoxin serum for the asthma. He was confined to bed. No effect on pulse, temperature, respiration or skin, nor any subjective symptoms until the third day when an erythema began and asthma disappeared. Erythema did not increase nor did any urticaria appear and his asthma did not return for the two weeks he was with us even with roses in the room. I have neither seen nor heard from the case since.

Case III.—Mrs. C., age 52, married, asthma twenty-five years, nervous, irritable. No known cause for acute attacks except she thought east wind brought them on. I gave 3,000 units antitoxin serum and kept her in bed. She had suffered continuously for two weeks. Twenty-four hours after receiving antitoxin asthma began to improve. It improved gradually for a week but never left her entirely and she had no severe return of it. Her reaction to antitoxin was extreme. Large amount of irritation with swelling and redness around point of injection. On the sixth day very severe rheumatic pains with swelling of the joints which continued for three days. Urticaria very severe over entire body with excessive burning and itching for two days. I felt that another dose of antitoxin might have given her complete relief but the severity of the reaction kept me from giving it. No respiratory symptoms except gradual relief from asthma.

Case IV.—Mr. L. R., age 32, farmer, single, nervous, fleshy, heart tone bad. Asthma four years, "since contracting malaria." I gave 3,000 units antitoxin serum. No effect until ninth day when urticaria began and he was relieved from asthma. No asthma since but much rheumatism which he never had suffered from before.

Case V.—Mrs. F. L., age 60, married, asthma thirty years. Had taken a proprietary asthma cure for fifteen years, very nervous. Work, east wind and damp or dusty weather brings on an attack. Acute attacks foretold by pain in back of neck or shoulders. Attacks have never required physician's attendance if she keeps quiet. Her chest showed besides the sibilant and sonorous rales, spots of crepitant and subcrepitant rales. With a temperature and pulse normal I gave her 3,000 units antitoxin serum. No effect until second day, when point of injection became irritated, red and swollen, this subsided in about two days. On the evening of the tenth day there were no more effects so the next morning I carried 2,000 units more to the house intending to inject them. I found her body covered with an urticaria and the asthma much better. Temperature 100 degrees F., respiration 24, pulse 116. Twenty-four hours later temperature 102 degrees F., respiration 28, pulse 120, urticaria worse with some rheumatic pains. Breathing much better, practically no sibilant or sonorous rales. Crepitant rales still heard and coughing up green mucous. Twenty-four hours later urticaria gone with a normal temperature, pulse and respiration. Rheumatic pains continued very bad for nearly a week but no asthma. After the pains had gone she said that she felt better than she had for a year. She was entirely free from asthma even when in contact with the things that had formerly produced it for about six months. After six months she had

slight attacks which gradually grew worse and now she has them as bad as ever.

Curschman's spirals were found in every case except the last in which case the sputum was not examined for them.

Antitoxin was always injected in buttocks and patient kept in bed until relieved.

No bad respiratory symptoms unless it was in case one and every case was injected during an acute attack.

There were no rapid effects.

The amount of antitoxin used was the same in every case the amount of reaction differing markedly.

All obtained some relief from asthma but it bore no relation to the severity of the reaction to antitoxin. Cases three and five reacting most severely. Case three was never relieved entirely and case five for only six months. Case four reacted very mildly coupled with a weak heart and has entire relief from asthma.

It was the first time any of them had received antitoxin.

There was a marked relation between the period of cutaneous irruption and the relief from the asthma. This would be suggestive that in these cases there was a hyperemic condition of the bronchial membranes which was relieved when the skin became hyperemic.

Although I feel that antitoxin gives some positive relief in asthma I also feel that there is a large psychical element involved and I have not used it in the last eighteen months.

GUNSHOT WOUNDS OF THE ABDOMEN, WITH REPORT OF A CASE OF WOUND OF LIVER, STOMACH AND PANCREAS, WITH OPERATION AND RECOVERY.*

By THEW WRIGHT, M.D.,

BUFFALO, N. Y.

THERE are two reasons which prompted me to choose this subject. The first is that I have been surprised to find that there is a mistaken idea in the minds of some as to the proper treatment of gunshot wounds of the abdomen in civil life.

The second is that I wish to report a case in which a bullet perforated the quadrate lobe of the liver, both walls of the stomach and the lower border of the pancreas, which was operated upon and made a complete recovery.

How widespread the idea of non-interference in bullet wounds of the abdomen has become I do not know, but as a result of inquiry I have found that there are some who fail to realize the difference between the proper treatment of such wounds in civil life and warfare.

Experience in recent wars has shown that it is possible for the small calibre bullet of the modern military rifle to perforate the abdomen and not prove fatal. It has been definitely settled that in warfare the treatment of gunshot wounds of the abdomen should be non-operative, unless it is apparent that death from hemorrhage is certain without operation. But the reason for this is the impossibility of performing a laparotomy under proper aseptic conditions at the front. Cases operated upon at the front have almost without exception resulted fatally, whereas the number of recoveries in cases not operated upon has been surprisingly great. In the civil war perforating wounds of the abdomen were always fatal. But the modern rifle bullet is an entirely different affair from the old leaden one. The modern steel-jacketed projectile may pass through the abdomen without perforating the intestines as has been observed repeatedly. It may also, if it strikes the body squarely, pass through several coils of intestine and yet no peritonitis follow, because of the small size of the perforations and the fact that unless the intestines are stirred up their contents do not flow out before adhesion to neighboring coils takes place. Add to this the fact that the soldier's intestines are often relatively empty from lack of food and you have explanations for some of the recoveries.

But the fact that many cases have recovered without operation should not for a moment delay operating upon such wounds occurring in times of peace, when the proper facilities are at hand.

The interesting discovery has been that not all such wounds are fatal in and of themselves, whereas laparotomies at the front are fatal. Could the wounded soldier be at once placed in one of our modern surgical clinics there is no doubt but that operation would show a far greater percentage of recoveries than occurs without it.

But this plan of non-interference in no wise applies to civil life. In the first place the leaden bullet, the close range and the lesser velocity, all tend to produce more extensive lesions, and place these wounds in the same class as those of the civil war, when the ambulance driver who was asked if he knew how to deal with wounded men said, "Oh, yes, if they are hit here," pointing to his abdomen, "knock 'em over the head, they can't get well."

In a properly equipped clinic the abdomen can be opened with such impunity that no time should be lost, but operation should be performed immediately upon any wound which has, or may have, penetrated it. No time should be lost in probing such a wound at the time of operation, and, of course, no wound that may connect with the peritoneal cavity should be probed at any other time, for if the probe enters the abdomen a

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* Read at the annual meeting of the Eighth District Branch of the Medical Society, of the State of New York, September 28, 1910.

laparotomy must be performed and a failure to enter the abdomen means nothing, as the sliding of the fascial planes will frequently close the bullet tract.

On opening the abdomen hemorrhage should be checked if present and a careful examination of the viscera made, for perforations may be easily overlooked. In closing the abdomen the old adage of when in doubt, drain should apply. Shock may or may not be a prominent feature and if present should be treated as in other conditions.

The following case occurred in my service at the Buffalo General Hospital.

Jerry S., age 11 years, was shot by a boy friend with a 22-calibre revolver at a distance of about three feet, the bullet penetrating the abdominal wall 2½ inches to the right of the median and in the nipple line, just above the costal border. The accident occurred at about 3.30 P. M. and was followed by profound shock. The boy rallied from the shock and was brought on the train some seventy miles to Buffalo. On entering the hospital about 8 P. M. his pulse was 90, temperature 100, respiration 25, and he had so far recovered from shock that he did not appear severely hurt. However, owing to the site of the wound and the fact that the ball had come from the right, immediate operation was advised and performed.

An incision was made through the upper part of the right rectus and on opening the peritoneum much free blood was found in the general peritoneal cavity, holes of entrance and exit in the right lobe of the liver and a hole in the anterior wall of the stomach, about one inch from the pylorus. The hole in the stomach was closed. The transverse colon was then lifted up and through its meso-colon the posterior wall of the stomach explored and a second hole found and closed. The lesser cavity was filled with blood and clots, which were removed and a wound in the lower border of the pancreas disclosed. The opening in the meso-colon was closed, the colon and stomach were returned to their normal position and an opening was made in the gastro-hepatic omentum through which a split rubber drain was passed to the site of the pancreatic wound, where it was fastened to the peritoneum by a catgut suture. The patient was returned to bed, placed in the semi-recumbent position and given continuous procto-clysis, with enough tr. opii in the solution to keep the intestines at rest.

The second day following operation the temperature rose to 102, pulse 130, respiration 35, followed by a rapid decline to normal and an uninterrupted convalescence. Three weeks after operation the wounds were healed and the patient was perfectly well. A point of interest seen at operation was the infiltration of blood between the layers of the great omentum showing an apparent lack of obliteration of this part of the lesser sac.

This case well illustrates the importance of laparotomy. Had not the physician who brought the boy to the hospital been at hand, to vouch for the shock that had been present, there would have been reason to believe that no serious injury had been done, and that the bullet had been deflected along the fascial planes of the abdomino-thoracic wall. There was nothing in his appearance on entering the hospital to suggest the extensive injuries found at operation.

Though a number of bullet wounds of the pancreas followed by operation and recovery have been reported (Robson and Cammidge report fifteen from the literature), they are still of sufficiently rare occurrence to have prompted me to report this one. That a bullet can enter this region and not prove fatal seems almost miraculous when one considers the vital structures that are grouped here. It is the accompanying injury to these structures, such as the vena cava, aorta and the great sympathetic plexuses that make pancreatic injuries so fatal, rather than the injury to the gland itself. Ample drainage renders a small wound of the pancreas relatively benign.

IMPORTANCE OF RECOGNITION AND TREATMENT OF ADENOIDS.*

By A. H. PAINE, M.D.,
CALEDONIA, N. Y.

IN preparing this paper I have had no idea of telling the profession anything new in regard to adenoids, but to bring before you the importance of recognizing and treating the condition.

In my experience I have found the laity totally ignorant of the existence of adenoid growths in the nasopharynx, and to my great surprise a very large percentage of the professional in the out of the way country districts, have exhibited either a total ignorance, a contemptuous disregard or a tolerant recognition of the condition; the latter contenting themselves that nature would remove the offenders at or shortly after puberty. It is literally appalling to see cases of almost total occlusion of the posterior nares with the concommitant profuse catharrhal discharge setting up a chronic laryngitis and bronchitis, treated with various cough remedies; chronic middle ear catarrh and suppuration, more or less impairment of hearing go on and on for months and years with no attention to an obvious eustachian obstruction by adenoids or tonsils. The ravages of the pharyngeal adenoids do not always stop at secondary effects. They sometimes are the actual cause of death, as in a comparatively mild scarlatinal infection seen by me in consultation last winter. The

* Read at the annual meeting of the Seventh District Branch, at Geneva, N. Y., September 15, 1910.

patient a child of five years had total occlusion of the nares together with a pair of tonsils that filled the throat to the extent of a lumen that would just admit a swab the size of a lead pencil. In my opinion nothing but the condition of the child's throat caused the fatal termination of the case.

The frequency of occurrence of the condition is hard to estimate as different reports give estimates as low as 2 per cent., but if we may draw an inference from the investigation of Dr. G. A. Leland in 127 cases of scarlet fever, finding adenoids present in eighty-four cases, and absent in forty-three we might estimate that at least 50 per cent. of all children have more or less hypertrophy of the pharyngeal lymphoid tissue. These figures seem large and it is not to be inferred that every case of minor degree requires radical treatment, it merely goes to show that the condition is extremely common.

By the term adenoids we designate a pathological condition of the nasopharynx comprising an hyperplasia and infection of the normally situated lymphoid tissue a part of the lymphoid ring surrounding the original embryonic orifice, the remainder of which is seen in the faucial and lingual tonsils.

Histologically we find the adenoid composed of loose succulent connective tissue, holding in its meshes glandular elements and a rich vascular net-work, mostly veins. Such a structure is naturally susceptible to the slightest irritation and readily infected, its location being favorable for both accidents to occur frequently. Mayo and others report that the examination of the removed tonsils and adenoids discloses tuberculous foci in 8 per cent. of the former and 16 per cent. of the latter. The growth is always covered with a sticky mucous secretion which favors the adherence of all manner of respired micro-organisms. This germ laden secretion in time being dropped into the throat, find its way to the larynx and bronchi or to the stomach, giving opportunity for infection of the lower respiratory tract or gastro-intestinal tract. Beside this direct mode of infection we have a well beaten path to various important organs by way of the lymphatic system. The experiments of Grober have proven conclusively that by way of the lymphatic vessels a direct communication exists between the glandular organs of the pharynx and the bronchial and mediastinal glands and apices of the lungs, whence may come an almost direct tubercular infection of these latter structures. Tuberculous glands of the neck almost certainly have their origin in the tonsil and adenoid and it is highly probable that many cases of tubercular meningitis arise from a tuberculous adenoid. The tonsil has long been known as the "portal of entry" for a number of acute infectious diseases, among which stand pre-eminently acute rheumatic fever and scarlatina, and what may be said of the tonsil in this respect is in a large measure true of the adenoid.

The most conspicuous consequence of adenoids is obstruction to nasal respiration. This may be constant or intermittent, complete or partial, according to the size and location of the growth and the amount of irritation present. During an acute coryza a growth of moderate size may cause complete occlusion. As a result of this obstruction we have an impairment of ventilation to the nasal chambers, and a disuse of the nasal functions, with a production of various grades of catarrhal changes in the mucous membranes. It is reasonable to presume that a chronic catarrhal process, occurring at a period of life when the bony and cartilaginous framework of the nose is soft and impressionable, might be responsible for many abnormalities of the septum and turbinates found so commonly in later life. The disuse of the nares soon produces a narrowing of the nostril, a broadening and flattening of the nose in the region of the bridge and a change in the facial bones, amounting in severe cases, to little short of deformity. The compensatory result of occluded nares is mouth breathing with the disadvantages of not filtering the respired air nor regulating the amount of heat and moisture to be carried to the lungs. The chronic swelling of the upper turbinates interferes with the sense of smell and causes more or less headache. The closure of the nose and accessory sinuses, a variable amount of deformity of the hard palate and dental arch often accompanied by enlarged tonsils produce a distinct alteration in the voice, there being a lack of resonance and a thickness of speech. Many cases of deafness, chronic catarrhal and suppurative otitis media have their origin in adenoids. Pressure exerted by a large central adenoid or by small ones in the fossa of Rosenmüller, may occlude the eustachian orifice and interfere with the ventilation and drainage of the middle ear, or infection travel up the tube from them.

Chronic coughs of the most intractable character often disappear magically after the removal of adenoids. These coughs may be reflex or due to an extension to the larynx of the catarrhal condition above. An examination of the nasopharynx of children suffering from repeated attacks of spasmodic croup and bronchial asthma, will nearly always disclose adenoids, the removal of which will greatly lessen if not stop the attacks. The restricted supply of air decreases lung expansion and flat hollow chests or in rachitic subjects the pigeon breast results. The general health of a child with adenoids is usually below par. In-

sufficient oxygenation results in anemia, asthenia and under development, both physically and mentally. This lowered condition renders them especially susceptible to infectious diseases and less able to combat them. A number of remote reflex symptoms are attributed to adenoids, such as stammering, chorea and enuresis, and while this seems far fetched, in obstinate cases of these conditions an investigation of the nasopharynx may disclose a condition which, if properly treated, would aid their cure.

The chronic nasal or pharyngeal discharge, cough and impaired hearing, with the typical mouth breathing, broad nose with small nostrils, general appearance of dullness and apathy make the diagnosis so easy in marked cases, and the simple introduction of the finger up behind the soft palate so easily confirms the diagnosis that it does not seem that anyone should let a case with which he comes in contact go without proper treatment.

Just a word in regard to treatment. While systematic treatment and properly directed treatment of the nasopharynx, continued over a considerable period, will cause a subsidence of the catarrhal symptoms, recurrence is inevitable and the best policy is complete extirpation of the growth by currette as early as possible.

THE RELATION OF THE GENERAL PRACTITIONER TO REFRACTION OF THE EYE.*

By T. H. FARRELL, M.D.,
UTICA, N. Y.

FOR a long time it has been evident that the state society was waging a losing fight against the society of opticians in their efforts to prevent them from getting recognition by the state regents and I think the society deserved its defeat for the profession was not prepared to do the work which they were trying to prevent the opticians from doing.

The use of glasses has become almost universal and it would be a physical impossibility for the oculists in the profession to do all the refraction that is required, even if they worked overtime and gave their services free. Instead of the general practitioner coming to the rescue, it was left to uneducated laymen, including jewellers, opticians, and peddlers. The family physician has had a false sense of modesty regarding his capacity to do simple refraction, and so relieve many cases of eye strain. There is scarcely a member of our profession who by devoting two weeks to the study of refraction and its practice could not become more proficient than the great majority of opticians. The professors in our metropolitan medical schools may claim that this work is already being done and with the large clinics in the cities, they may believe that all is being done that is necessary, but those of us practicing in the country know that practically nothing is being done by the physicians outside of the so-called specialists, and further that simple peddlers have been going from village to village selling any kind of glasses which they could persuade people to buy without regard to their fitness and at the same time dispensing collyria and ointments and giving general advice about a subject of which they know nothing. I cannot urge upon the already over-burdened practitioner the use of the ophthalmoscope as I have heretofore the use of the head-mirror, because it is a difficult instrument to master and what he may see with its aid, is difficult to translate; but there is a large field to be covered in the way of simple refraction which he could accomplish with a very small out-lay in the way of study and equipment.

How rare it is to see in a physician's office a test-card by means of which he could frequently obtain a clue to symptoms otherwise obscure. The taking of a patient's near and far vision certainly requires less time and would quite as often yield valuable information as the ordinary urinalysis. An inexpensive case of trial lenses would enable him to relieve many cases of simple hypermetropia, myopia, and presbyopia and this without committing himself to any more pretentions than he does in other branches of practice. The oculist would still be as available as the consultant in medicine, surgery, pediatrics, etc., in the more difficult and obscure cases. At a time when so many of his patients are electing for themselves to go to specialists the general practitioner surely owes it to himself to take up this field of work which in its simplest development will yield him valuable results and in which, if he finds it suited to his taste and capacity, he can by taking up the use of the ophthalmoscope, and other instruments of precision, bring himself to a high degree of proficiency.

Allow me to read some extracts from an article by Dr. Leartus Connor, of Detroit, regarding the present status of this question in the State of Michigan.

"The Michigan State Medical Society in 1908 passed the following preamble and resolutions unanimously:

"'WHEREAS, Michigan now has three classes of medical practitioners, viz.: (1) The family physician, (2) specialist, (3) and remnants, as opticians, osteopaths, Christian scientists, etc. (all persons devoid of adequate training for the duties of the physician);

"'WHEREAS, Among those remnants are the

* Read before the Fifth District Branch of the Medical Society of the State of New York at Syracuse, October 19, 1910.

optometrists, who live on the cases of refractive defects neglected by the family doctor, and without the specialists' field;

"'WHEREAS, It is discreditable to the medical profession and harmful to the people that any part of medical practice fall into the hands of unqualified persons;

"'WHEREAS, It being a physical impossibility for the fully trained ophthalmologist to care for all the neglected class, it remains for the family doctor to qualify himself to recognize and treat the simple cases seeking expert aid as emergency demands, if the medical profession is to occupy its entire field. Therefore, be it

"'*Resolved,* That the councilors of the Michigan State Medical Society be directed to take this matter up with their several county societies and so educate their constituents that between the family physician and ophthalmologist the needs of the people be fairly and fully met.

"'*Resolved,* That the council request the Michigan State Board of Registration, (1) to place among the requirements for a license to practice medicine, a practical demonstration by the applicant of his ability to recognize and treat simple presbyopia, simple myopia, and simple hyperopia; to recognize and treat the infectious diseases of the eye and the uveal tract; and (2) that it co-operate with our legislative and public policy committee in all practical efforts to prevent the enactment by the Michigan legislature of a law giving opticians the legal right to practice ophthalmology in Michigan.'

"Further, on February 12, 1909, the secretary of the Michigan State Board of Registration sent the following letter to medical colleges:

"'I am directed by the chairman of the examination committee who has full charge of the matter, under resolution of the board, that in the future, beginning with the next spring examination, all applicants for license will be required to demonstrate their fitness to do practical refraction work, in addition to the usual written paper on diseases of the eye, ear, nose and throat. The examination on this subject will be conducted by a specialist and will constitute an integral part of the examination, and failure to obtain 50 per cent. of possible standing will subject the applicant to refusal of license.'"

"By private letters, over signatures of their writers, it is shown that some family doctors have learned and are successfully practicing the art of simple refraction. It would be an insult to the other physicians in Michigan to suppose them inferior in this respect. Doubtless most are surfeited with practice and do not care to make the attempt, but if they tried they would surely succeed. Possibly the new men who enter the field will make the older ones take notice, as their patients leave them for the new doctor who can manage simple refraction."

This movement is endorsed by the American Academy of Ophthalmology and Otolaryngology; the American Academy of Medicine, the Section on Ophthalmology of the American Medical Association; and is required by the Michigan State Board of Registration as a condition for license to practice medicine.

I congratulate the Medical Society of the State of Michigan on the advanced stand it has taken in this matter, so important to the welfare of the profession, and on the constructive work that has been done in an effort to realize their ideal.

I hope the Medical Society of the State of New York will take its place beside our sister society and by encouraging the family physician to occupy this neglected portion of the field of medicine rid ourselves of the reproach which we have hitherto deserved.

TYPHOID FEVER RESULTING IN DEATH FROM UNUSUAL COMPLICATION WITH MASKED SYMPTOMS.

By A. B. SULLIVAN, M.D.,
LIBERTY, N. Y.

HISTORY.

NAME, Mr. T. M. M. Age 40. Weight, 170 pounds. Physique, good. Habits, the best. Occupation, pharmacist, engaged also in bacteriological and analytical work—a man of superior intelligence and education. Seven years previously underwent operation for an attack of acute appendicitis, the prognosis at that time being very grave, owing to profound suppuration and perforation of the appendix-veriformis, and the necessity thereby caused for free drainage and gradual closure of the wound by traction. Thereafter he felt more comfortable wearing abdominal support.

At the time of my first visit in the last illness, he had suffered for eight weeks past from pertussis, and had just returned from a week's sojourn at Atlantic City, where he hoped by a change from mountain to sea air, to rid himself of the persistent paroxysmal cough, but had returned unbenefited, in fact, felt somewhat worse. He complained at this time (December 7, 1909) of general weakness, lassitude, dull occipital headache, ache in the back and limbs, and particularly of constipation, which, however, was usual to him, and also of a feeling of constriction or tightness in the chest. Temperature was 100, pulse 90. Examination of the chest indicated nothing more than a slight primitive bronchial irritation. Abdominal palpation and examination was negative. Fifteen hours later, both the Widal and agglutination control tests showed typhoid

positive. At this time epistaxis occurred and several spots appeared on the lower abdominal region. On December 11, 1909, three days later, competent nurses were detailed and strict supervision of diet, baths and everything pertaining to the patient and sick chamber were begun.

The writer does not think it necessary to detail temperature remissions, pulse, respiration, urine, sputum and fæcal examinations, suffice it to say, the disease ran a severe course with intermittent low muttering delirium, a maximum evening temperature of 104, average 103, and at this point often remained twelve hours with little remission, and stubborn to hydro-therapy and other measures. The most predominant cause of anxiety throughout the course of the disease being pronounced constipation and tympanitis. Gurgling and succussion sounds and tympanitic percussion note over the right iliac region, could be elicited at all times, even after thorough evacuation of the bowel.

On the evening of January 14, 1910, thirty-eight days after the onset, the temperature fell within two hours, four degrees, pulse became rapid and feeble, respiration increased, vomiting and profuse perspiration and chilly feeling occurred. Saline enema given at this time was promptly ejected with large quantity of blood, and there was marked evidence of intestinal perforation, however, the patient rallied quickly, no rigidity of the abdominal wall, no pain, cessation of vomiting, the temperature gradually rising to 101, the pulse quality becoming good. Consideration of operative measures was deferred after four hours observation. Constipation and flatulence now became more pronounced, but still responsive to catharsis followed by high enema.

On the morning of January 19, forty-three days after the onset, there was voluntary movement of the bowel without any pathological aspect; following quickly this evacuation, uniform tympanitis developed rapidly, lifting the diaphram and displacing the cardiac apex upward and toward the median line. It was the writer's opinion with concurrence in consultation, that complete paralysis of the abdominal wall now existed—the patient was rational and conscious of impending death. In the presence of the writer and consultant, a short sharp attack of nausea and vomiting ensued, and the patient expired a few minutes thereafter.

Perhaps it would not be amiss after a careful reading of the above brief article and before reading further, to answer one's own blunt question—what was the direct cause of death in this case? Owing to the necessity of cavity embalming in this case, the writer had the sad but instructive opportunity of post-mortem examination of the abdominal cavity in less than two hours after death.

Inspection before section, showed great distension of the abdominal wall with increased circumscribed bulging in the right iliac region, this lateral bulging not being evident during antimortem inspection. Transverse section through the abdominal wall down to, but not including the muscles, and bi-secting the protrusion in the right iliac region, disclosed an inflated pouch of the bowel about the size of a fifty-cent coin, passing through the external oblique muscle without constriction, and lying immediately under the superficial fascia and directly vertically bi-sected by the cicatrix of the incision made at the time of operation for appendicitis. On complete opening of the cavity the intestines were found greatly distended by gas, forming pouches resembling miniature balloons, this distension extending upward from a portion of the bowel which was tightly constricted at the ilio-cæcal junction, close to the appendix stump by several cord-like mesenteric bands; the bowel being inflated from above and constricted at this point, had pouched, twisted upon itself and was forced downward and held backward by a transverse portion of the bowel. There was no fæcal matter in the cavity or other evidence of perforation.

The direct cause of death undoubtedly being due to volvulus.

NOTICES.

THE AMERICAN SOCIETY OF MEDICAL SOCIOLOGY.

A. Jacobi, M.D., LL.D., Honorary President; William J. Robinson, M.D., President; William L. Holt, M.D., James P. Warbasse, M.D., Vice-Presidents; A. C. Jacobson, M.D., Secretary.

Recognizing the intimate relationship between disease and the social-economic system under which we live, recognizing that many diseases are caused directly by our social and economic conditions, recognizing that the efficiency or inefficiency of our treatment often depends upon the economic condition of the patient, recognizing that there are many problems deeply and vitally affecting the welfare of mankind which are left practically untouched by any existing medical society, The American Society of Medical Sociology has been organized for the purpose of studying radically all questions of a socio-medical nature, and invites your co-operation.

Some of the questions which are under investigation by the members at the present time are:

The need of a Federal Department of Health.

Tuberculosis as an economic disease.

Is there any demonstrable relationship between the strain of our modern life and the increase of insanity?

Is cancer on the increase, and if so, what are the probable etiologic factors?

What are the best, *i. e.*, the most humane and most effective methods of dealing with prostitution?

The best methods of preventing venereal infection?

Is complete sexual abstinence (*a*) likely to impair the general health? (*b*) likely to result in impotence?

The relative influence of heredity and environment on the physical, mental and moral characteristics of the offspring.

The question of marriage and divorce.

Is the regulation of conception morally justifiable, and if so, what are the best methods?

Abortion in its medical and ethical aspects.

Alcohol (*a*) as a beverage, (*b*) as a medicine. Its physiologic, medicinal, social and economic effects.

Infant mortality. Its principal causes and prevention.

Occupational or trade diseases.

Food adulterations and their influence on health.

The causes of quackery, Christian science and other cults, and the influence of the irregular cults of medicine on public health.

The results of these investigations will be disseminated by means of meetings, lectures, reports, pamphlets, etc.

If you are or wish to become an earnest student of socio-medical questions and wish to join the Society, you will please fill out the enclosed blank and sent it to

THE AMERICAN SOCIETY OF MEDICAL SOCIOLOGY,
12 Mt. Morris Park W. New York.

NATIONAL CONFEDERATION OF STATE MEDICAL BOARDS.

The National Confederation of State Medical Examining and Licensing Boards will hold its Twenty-first Annual Meeting in Chicago, Ill., on Tuesday, February 28, 1911, at the Congress Hotel.

The subjects to be taken up at this meeting will be a consideration of the State Control of Medical Colleges; a report by a special committee on Clinical Instruction; a report on a proposed Materia Medica List by a special committee; the report on a paper presented at the St. Louis meeting by Mr. Abraham Flexner, of The Carnegie Foundation for the Advancement of Teaching; and some special papers on such subjects as the Regulation of Medical Colleges, Necessity for Establishing a Rational Curriculum for the Medical Degree, and others, by men eminently qualified to prepare papers upon such subjects.

These topics are all of practical and vital interest to medical colleges, medical examining boards, the profession at large and the public. The Symposium will be composed of ten papers and be presented from the view-points of state, law, *medical colleges, state medical examining and licensing boards and the medical profession.* The contributors of papers to the Symposium on State Control of Medical Colleges are men of the highest attainments in matters pertaining to state, law and the medical profession, and their production will be worthy of the most careful consideration. The chief object of the Symposium is to determine, as far as possible, the feasibility of placing Medical Colleges under State Control. The special committee on Materia Medica made a report at the St. Louis meeting of the Confederation, June 6, 1910, and it was continued and instructed to report again at the next annual meeting of the Confederation in 1911. The report of this committee made at St. Louis has received very favorable comment by many of the editors of medical journals, and should receive at the Chicago meeting extended and careful consideration. The report of Mr. Flexner's paper is published in the Proceedings of the St. Louis meeting of the Confederation, page 64, and will be open for discussion at the Chicago meeting.

An earnest and cordial invitation to this meeting is extended to all members of state medical examining and licensing boards, teachers in medical schools, colleges and universities, delegates to the association of American Medical Colleges, to the Council on Medical Education of the A. M. A., and to all others interested in securing the best results in medical education.

The officers of the Confederation are: President, J. C. Guernsey, M.D., 1923 Chestnut St., Philadelphia, Pa.; secretary-treasurer, George H. Matson, M.D., State House, Columbus, Ohio.

NOTICE.

The Committee on Scientific Work invites members of the Medical Society of the State of New York intending to read papers at the next annual meeting, April 18th, 19th, to send titles and abstracts to Dr. L. H. Neuman, 294 State Street, Albany, N. Y.

L. H. NEUMAN,
Chairman.

Medical Society of the State of New York

MEETING OF THE COUNCIL.

A regular meeting of the Council of the Medical Society of the State of New York was held at the Fort Orange Club, Saturday, December 3d, at 8.40 P. M. Dr. Joseph W. Grosvenor, First Vice-President in the chair. Dr. Wisner R. Townsend, Secretary.

There were present Drs. C. W. M. Brown, J. W. Grosvenor, T. H. Halsted, D. L. Kathan, A. MacFarlane, E. Munson, W. J. Nellis, L. H. Neuman, F. DeW. Reese, W. W. Skinner, Wisner R. Townsend, J. M. Van Cott and Mr. James Taylor Lewis, Counsel of the Society.

A letter was read from Dr. Stover explaining his absence.

A telegram was presented from Dr. Lambert explaining his absence.

Minutes of the last meeting (see June, 1910 JOURNAL, page 315) were read and approved as printed.

The Committee appointed by the President, Dr. Stover, to prepare suitable resolutions on the death of Dr. Jewett, presented the following:

"IN MEMORIAM.

Dr. Charles Jewett.

In the death of Dr. Charles Jewett not only has the Medical Society of the State of New York lost its honored President, but the medical profession of this country will miss from its ranks a tireless worker, a distinguished teacher, and an eminent surgeon.

In the fullness of years and the ripeness of experience there was conferred upon him his last public honor—the presidency of the State Society. Unsought for and undesired, it was conferred by his colleagues as a fitting recognition of his distinguished achievements and his sterling worth.

However distinguished the office there was something about the man that no office could compass, and no honor could magnify. For whether in the councils of the mighty, or in the homes of the humble, his services were always distinguished, and his judgments clothed with authority.

Among obstetricians he was a leader by right of worth and superiority, by force of character and quality of achievement.

He crystallized his knowledge into literature and enriched his profession by a fruitage that will live as a permanent asset.

Because of his ability to sift, correlate, clarify and vitalize the truth, he was a teacher of power and pre-eminence; and a host of students throughout the world are the living witnesses of his scholarly and forceful personality.

Because of his advanced thought and judicial mind, his counsel and advice were sought by his brethren in the perplexities of human suffering, and the depth of his knowledge and the strength of his character were always an abiding inspiration.

The Medical Society of the State of New York sorrowing in the loss of its distinguished President humbly voices its appreciation of his work and his worth; and thus again renews its faith in the permanency of character, the supremacy of service, and the triumph of worth.

William Francis Campbell, M.D.
E. B. Cragin, M.D.
J. A. Sampson, M.D."

It was moved, seconded and carried that the resolutions be spread upon the minutes, a copy sent to the family, and to the medical journals.

It was moved, seconded and carried, that Dr. Stover be appointed a member of the Finance Committee in place of Dr. Jewett, deceased.

The Secretary reported that owing to the meeting this year coming on April 18th, it would be too late for the new district branch presidents, who assume office at the close of the annual meeting, to organize their districts and prepare for the fall meetings, therefore

It was moved, seconded and carried, that the present district branch presidents be requested to arrange at some date after January 1st, to call together the new executive committees of the district branches which take office January 1, 1911, and the newly elected presidents, and that arrangements be made for the fall meetings; also that an endeavor be made in the various district branches to arrange for a permanent date of meeting for the future which would thus avoid the difficulty of several branches meeting in different parts of the State on the same day.

Moved, seconded and carried:

"Whereas, The Annual Meeting of the Medical Society of the State of New York is to be held in Albany on the 18th day of April, and

"Whereas, It becomes necessary to carry on the business of the Medical Society of the State of New York without interruption, be it

"Resolved, That the Committee on Publication be and the same hereby is authorized to make all and every necessary contract and execute the same, attach the seal of the corporation if necessary and do any and all other things that may be necessary or expedient to carry out the contracts incident to the publication of the *Medical Directory* of New York, New Jersey and Connecticut and the *New York State Journal of Medicine* for the year 1911."

"Whereas, The contract between the Medical Society of the State of New York and the Medical Society of the County of Kings has or is about to expire, in which it is provided that the Medical Society of the County of Kings shall discontinue its journal and certain exchanges be made between the two societies and certain books and magazines are to be held by the Medical Society of the County of Kings as a circulating library for the benefit of the members of the Medical Society of the State of New York, be it

"Resolved, That all matters pertaining to such contract, a renewal thereof, inquiries and other matters pertaining thereto, be and the same is hereby referred to the Committee on Publication with full power granted to that Committee to do any and all things necessary in the premises for and on behalf of the Medical Society of the State of New York."

"Resolved, That the Committee on Publication be and it hereby is empowered to co-operate with others interested in favor of the enactment of national legislation in reference to postal laws effecting publications of the Medical Society of the State of New York."

"Resolved, That the Finance Committee be authorized to incur all current and necessary expenses until the meeting of the new Council."

It was moved, seconded and carried, that Mr. James Taylor Lewis be employed as Counsel for the year beginning February 1, 1911, on the same terms as last year.

The following letter was read from the Director of the State Library:

"September 30, 1910.

Dr. Wisner R. Townsend,
Secretary State Medical Society,
17 West Forty-third Street, New York City.

Dear Sir:

Ten years ago the Albany Medical College gave to the New York State Library 7,346 volumes and 3,661 pamphlets. This collection was to be the nucleus for an adequate public reference library on this subject which should form a department of the State Library. At that time the physicians of the State united in a request for a small annual appropriation for medical books which has been since that date $2,000 a year. This sum has been carefully expended, chiefly for medical periodicals, under the direction of an Advisory Council of Albany physicians. This council now consists of the following persons who have given freely of their time and advice, not only in choosing the books but in approving policies and publications and in perfecting plans for greatly improved quarters for the Medical Library in the new State Education building:

Dr. Albert Vander Veer, Dr. Samuel B. Ward, Dr. Henry Hun, Dr. George E. Gorham, Dr. Arthur W. Elting, Dr. Thomas Ordway.

The collection at this date numbers nearly 20,000 volumes, and that it is already a serviceable research library seems to be abundantly evidenced by the wide use that is made of it not only in Albany but throughout the State by members of your society.

A comparison of the two bulletins sent you to-day under separate cover emphasizes its growth during the past five years.

The library regularly receives 642 medical serials. The annual bill for these serials nearly exhausts the appropriation. If the work of securing and completing sets of important medical periodicals is to be continued, it is imperative that the appropriation be increased. I write to enlist the interest and active co-operation of your society in an effort to fix the regular annual appropriation at $3,000 instead of $2,000. As to just how an expression from your society may best be made I am not in a position to suggest. You will know better than I. Your society meets within a few days. If, as a result of that meeting, some formal resolution or motion, either from the society as a

whole, or from its proper executive committee, can be placed in my hands, it will help strengthen our case for a larger appropriation. In addition it would be pleasant to have the assurance that the officers of your society stand ready to address personal letters to influence members of the Finance Committee of the Legislature.

Yours very truly,
(Signed) J. I. Wyer, Jr."

It was moved, seconded and carried, that it is the sense of the Medical Society of the State of New York that the appropriation for the Medical Department of the State Library be increased from $2,000 to $3,000 per annum, and that the Finance Committee of the Senate and Assembly be notified of this action.

It was moved, seconded and carried, that the method at present in operation, of having the fiscal and calendar year coincide, be continued and that all those who should make reports for the year be requested to make them as of December 31st as heretofore.

It was moved, seconded and carried, that the Secretary make the annual report of the Council.

It was moved, seconded and carried, that Drs. H. L. Elsner and A. T. Bristow be confirmed as members of the Committee on Scientific Work, their nominations having been sent in by the Chairman of the Committee too late for action at the last meeting of the Council.

It was moved, seconded and carried, that the following amendment to the by-laws of the Medical Society of the County of Washington be approved:

"Resolved, That we change the date of our annual meeting to the first Tuesday in October, and the semi-annual meeting to the second Tuesday in May."

A letter from Dr. Claes J. Enebuske relating to certain physiological chemistry investigation was ordered laid on the table.

The Secretary reported in the absence of the Treasurer cash on hand $9,000; bills payable, $500.

The Committee on Scientific Work presented the following report:

To the Council of the Medical Society of the State of New York:

The Committee on Scientific Work has been looking over the field and hope, by having the program of 1911 a most comprehensive one, to make the spring meeting a thorough success.

The Committee feels, if the Council deems it wise, that an exhibit of pathological material contributed by the leading laboratories of the State might be an attraction, and would ask the Council to empower the Committee to extend invitations, to arrange the exhibits and to incur the necessary expense.

The Committee also feels that an active campaign should be inaugurated through the Journal to interest the profession generally in this meeting. The propriety of informing our membership of the day of the meeting, as well as the attractions to be offered by circulars through the mail, is also presented you for your consideration.

The Committee wishes to assure you that every effort will be made by them to present a program of such attraction as should merit a largely increased attendance.

All of which is respectfully submitted.

(Signed) Leo H. Neuman,
Chairman of Committee on Scientific Work.

Upon motion seconded and carried the report was ordered received and adopted and the Committee empowered to carry out the recommendations contained therein.

The Secretary reported in the absence of the Chairman of the Committee on Legislation that the Committee would supervise the legislative work the same as in the past.

Dr. Nellis, Chairman of the Committee on Arrangements, reported that at the present time it is unable to make any definite plans for the April meeting, as it is too early to make final arrangements, but that the matter would be given attention at the proper time.

Dr. Van Cott, Chairman of the Committee on Public Health, reported that it seemed advisable to endeavor to do some practical work in the way of improving public health matters in the different counties of the State, and that the help of the Council with such a movement would be desirable.

It was moved, seconded and carried, that the Committee on Public Health be empowered to carry out the plans suggested.

There being no further business the meeting adjourned at 11 P. M.

Wisner R. Townsend,
Secretary.

DISTRICT BRANCHES.

SECOND DISTRICT BRANCH.

Annual Meeting at New Brighton, S. I., October 21, 1910.

BUSINESS SESSION.

The following officers were elected for the year 1911: President, Frank Overton, Patchogue; Vice-President, Walter B. Chase, Brooklyn; Secretary-Treasurer, Victor A. Robertson, Brooklyn.

SCIENTIFIC SESSION.

"24, 48 and 72-Hour Pneumonias in Children," Le Grand Kerr, M.D., Brooklyn.

"The General Practitioner and Pulmonary Tuberculosis," A. Jacobi, M.D., New York.

"The Work of a Country Health Officer," W. A. Baker, M.D., Islip.

"Cæsarean Section," W. Bryan, M.D., New Brighton.

COUNTY SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

Regular Meeting at Albany, December 29, 1910.

SCIENTIFIC SESSION.

"An Accessory Pectoralis Major Muscle," illustrated with water-color painting, Howard E. Lomax, M.D., Albany.

"The Differential Diagnosis of Early Carcinoma of the Stomach, and Benign Subacidities," Jerome Meyers, M.D., Albany.

MEDICAL SOCIETY OF THE COUNTY OF CHEMUNG.

Annual Meeting held at Elmira, December 20, 1910.

The following officers were elected for the ensuing year:

President, F. B. Parke, Elmira; Vice-President, Charles H. Haase, Elmira; Secretary, William Brady, Elmira; Treasurer, G. V. R. Merrill, Elmira. Censors: G. V. R. Merrill, C. G. Jennings and R. G. Loop. Delegate to State Society: G. V. R. Merrill, Elmira. Alternate: C. W. M. Brown, Elmira. Chairman of the Committee on Public Health, A. H. Baker, Elmira; Chairman of the Committee on Legislation, R. P. Bush, Horseheads.

The following resolutions were adopted:

Whereas, Every year in our present manner of celebrating our Independence Day many lives are sacrificed, thousands of people injured, and much property destroyed by fireworks, be it

Resolved, That we, the Medical Society of the County of Chemung ask the Common Council of the City of Elmira and the Board of Trustees of the Villages of the County of Chemung to prohibit the sale and use of fireworks in the territory under their jurisdiction, except by persons to whom the Mayor or the President of the Trustees grants special permits, upon occasions of public celebrations and exhibitions.

Whereas, The Medical Society of the State of New

York in 1909 lost $6,053.09 in publishing the Tri-State Directory and it loses a similar amount each year, and

Whereas, If the State Society discontinued the publication of said Directory it would save this annual expense and as a consequence we could reduce our State dues, as the State Society now receives three of the four dollars we each pay for annual dues, be it

Resolved, That the Medical Society of the County of Chemung do all in its power to have the State Society discontinue the publication of the Tri-State Directory and that this Society instruct its State Delegate to work for this purpose.

The following amendment to the by-laws was acted upon:

Amend Section 1, Chapter IX to read as follows:

"Regular meetings shall be held on the third Tuesday of January, February, March, April, September, October, November, and December."

The Secretary read a letter from the State Secretary urging the County Societies to increase their membership. The local secretary read a list of desirable applicants and a motion was carried directing the President to appoint a committee of three to personally visit all desirable applicants and urge them to become members.

MEDICAL SOCIETY OF THE COUNTY OF MONROE.

Annual Meeting, Rochester, December 20, 1910.

BUSINESS SESSION.

The following officers were elected for the year 1911: President, William B. Jones, Rochester; Vice-President, Seelye W. Little, Rochester; Secretary, Albert C. Snell, Rochester; Treasurer, Frederick W. Seymour, Rochester. Censors: E. H. Howard, Thomas O'Hare, C. E. Darrow, Thomas Jameson and Richard Moore. Delegates to State Society: E. H. Howard, Rochester, C. D. Young, Rochester, and N. D. McDowell, Rochester; Alternates: O. E. Jones, Rochester, W. T. Mulligan, Rochester, and W. D. Ward, Rochester. Milk Commission: J. W. Magill and E. G. Nugent.

Annual Address, Charles E. Darrow, M.D., Rochester.

THE WAYNE COUNTY MEDICAL SOCIETY.

Annual Meeting at Lyons, December 13, 1910.

BUSINESS SESSION.

The following officers were elected for the year 1911: President, Herman L. Chase, Palmyra; Vice-President, Charles G. Plumb, Red Creek; Secretary-Treasurer, M. A. Veeder, Lyons. Censors: M. E. Carmer, G. D. York and G. D. Winchell. Delegate to State Society: T. H. Hallett, Clyde; Alternate: G. D. Winchell, Rose.

ONONDAGA MEDICAL SOCIETY.

Annual Meeting at Syracuse, December 13, 1910.

BUSINESS SESSION.

The following officers were elected for 1911: President, B. F. Chase, East Syracuse; Vice-President, John C. Shoudy, Syracuse; Secretary, Henry B. Doust, Syracuse; Treasurer, Allen Cone, Syracuse. Censors: S. E. Crane, J. B. Todd, A. B. Breese, E. H. Shepard and H. G. Case. Delegates to State Society: Frederick H. Flaherty, Syracuse, and Henry L. Elsner, Syracuse.

SCIENTIFIC SESSION.

"Osteogenesis Imperfecta; A Case with Presentation of Patient," E. J. Wynkoop, M.D., Syracuse.

"Pott's Disease; A Case," C. W. Demong, M.D., Syracuse.

"Infantile Paralysis," W. D. Alsever, M.D., Syracuse.

President's Address, T. H. Halsted, M.D., Syracuse.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

Annual Meeting at Schenectady, December 13, 1910.

BUSINESS SESSION.

The following officers were elected for 1911: President, John H. Collins, Schenectady; Vice-President, Albert S. Fay, Schenectady; Secretary, Louis A. Gould, Schenectady; Treasurer, Garrett V. Johnson, Schenectady. Censors: H. G. Hughes, H. L. Towne and E. J. Wiencke.

MEDICAL SOCIETY OF THE COUNTY OF ULSTER.

Annual Meeting, Kingston, Tuesday Evening, December 6, 1910.

BUSINESS SESSION.

The following officers were elected for the year 1911: President, George H. Chandler, Kingston; Vice-President, George W. Ross, Port Ewen; Secretary, Mary Gage-Day, Kingston; Treasurer, Aden C. Gates, Kingston. Delegate to State Society: Elbert H. Loughran, Kingston; Alternate: Albert H. Palmer, Marlborough. Delegate to Third District Branch: A. A. Stern, Kingston; Alternate: John Robinson, Kingston. Censors: A. H. Mambert, M. O'Meara, E. du B. Loughran, F. Snyder and L. Emmerick.

SCIENTIFIC SESSION.

Annual Address, Thomas O. Keator, M.D., Accord.

"The Simplified Treatment of Ano Rectal Diseases," and "A Brief Consideration of the Causes and Treatment of Rectal Constipation," by Samuel G. Gant, M.D., Professor of Rectal Diseases, New York Post-Graduate Medical School, New York City.

LEGISLATIVE NOTES.

The Committee on Legislation herewith presents the lists of members of the Senate and Assembly for the year 1911. Members of the Society can refer to this list at any time that it may seem advisable to write to their Assemblymen or Senators in regard to legislative matters and all are requested to look it over so that if among those represented there are any men known to them personally they can write them, if requested by the Committee on Legislation to assist or oppose any bills before the Legislature.

In the next issue of the Journal it is hoped to be able to print the Committees, which had not been appointed when this issue went to press.

T. F. Conway, Lieutenant-Governor and President of the Senate, Albany. Home Post Office, Plattsburg.

Senators.

1. J. L. Long, D., Oyster Bay, N. Y.
2. *Dennis J. Harte, D., 35 Stevens, L. I. City.

Brooklyn.

3. *Thomas H. Cullen, D., 256 President Street.
4. Loring M. Black, Jr., D., 376 McDonough Street.
5. *Barth S. Cronin, D., 573 Clinton Street.
6. *Eugene M. Travis, R., 436 Grand Avenue.
7. *Thomas C. Harden, D., 161 Metropolitan Avenue.
8. James F. Duhamel, I. L., 202 Bay 28th Street.
9. Felix J. Sanner, D., 58 Bremen Street.
10. James H. O'Brien, D., 21 Shepherd Avenue.

MANHATTAN.

11. *Christopher D. Sullivan, D., 277 Broadway.
12. *Timothy D. Sullivan, D., 214 E. 11th Street.
13. James D. McClelland, D., 43 Barrow Street.
14. *Thomas F. Grady, D., 151 E. 30th Street.
15. *Thomas J. McManus, D., 452 W. 49th Street.
16. *Robert F. Wagner, D., 1297 Lexington Avenue.
17. John Godfrey Saxe, D., 44 W. 45th Street.
18. Henry W. Pollock, D., 309 Broadway.
19. *Josiah T. Newcomb, R., 27 William Street.
20. *James J. Frawley, D., 51 E. 96th Street.
21. *Stephen J. Stilwell, D., 3311 Olinville Avenue.
22. Anthony J. Griffin, D., 891 Cauldwell Avenue.

STATE.

23. *Howard R. Bayne, D., 75 St. Mark's Place., New Brighton, S. I.
24. *J. Mayhew Wainwright, R., Rye.
25. *John B. Rose, R., Roseton.
26. Franklin D. Roosevelt, D., Hyde Park.
27. William Pierson Fiero, D., Catskill.
28. Henry M. Sage, R., Menands.
29. *Victor M. Allen, R., Petersburgh.
30. *E. T. Brackett, R., Saratoga Springs.
31. Loren H. White, D., Delanson.
32. *Seth G. Heacock, R., Ilion.
33. *James A. Emerson, R., Warrensburgh.
34. *Herbert P. Coats, R., Saranac Lake.
35. *George H. Cobb, R., Watertown.
36. T. Harvey Ferris, D., Utica.
37. Ralph W. Thomas, R., Hamilton.
38. J. Henry Walters, R., Syracuse.
39. *Harvey D. Hinman, R., Binghamton.
40. *Charles J. Hewitt, R., Locke.
41. John F. Murtaugh, D., Elmira.
42. Frederick W. Griffith, R., Palmyra.
43. *Frank C. Platt, R., Painted Post.
44. Thomas H. Bussey, R., Perry.
45. George F. Argetsinger, R., Rochester.
46. William L. Ormrod, R., Churchville.
47. Robert H. Gittins, D., Niagara Falls.
48. Frank M. Loomis, D., Buffalo.
49. *Samuel J. Ramsperger, D., Buffalo.
50. George B. Burd, D., Buffalo.
51. *Charles M. Hamilton, R., Ripley.

ASSEMBLY.

ALBANY.

1. *Harold J. Hinman, R., Albany.
2. *William E. Nolan, R., Albany.
3. *Robert B. Waters, R., Green Island.

ALLEGANY.

*Jesse S. Phillips, R., Andover.

BROOME.

Charles S. Butler, R., Harpursville.

CATTARAUGUS.

*Ellsworth J. Cheney, R., Sandusky.

CAYUGA.

Nelson L. Drummond, D., Auburn.

CHAUTAUQUA.

1. Julius Lincoln, R., Jamestown.
2. *John L. Sullivan, R., Dunkirk.

CHEMUNG.

Robert P. Bush, D., Horseheads.

CHENANGO.

*Walter A. Shepardson, R., Norwich.

CLINTON.

*John B. Trombly, D., Altona.

COLUMBIA.

Randall N. Saunders, D., Claverack.

CORTLAND.

*Charles F. Brown, R., Cortland.

DELAWARE.

Clayton L. Wheeler, D., Hancock.

DUTCHESS.

1. Ferdinand A. Hoyt, D., Fishkill-on-Hudson.
2. *Lewis Stuyvesant Chanler, D., Red Hook.

ERIE.

1. James S. Dawson, D., Buffalo.
2. Oliver G. LaReau, D., Buffalo.
3. *Leo J. Neupert, D., Buffalo.
4. *Edward D. Jackson, D., Buffalo.
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John C. Winters, Jr., R., Mt. Morris.

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3. August V. Pappert, R., Rochester.
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2. *Herbert E. Allen, R., Clinton.
3. *James T. Cross., R., Rome.

Onondaga.

1. *James E. Connell, R., Baldwinsville.
2. Fred. W. Hammond, R., Syracuse.
3. Thomas K. Smith, R., Syracuse.

Ontario.

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*Thaddeus C. Sweet, R., Phœnix.

Otsego.

Chester A. Miller, D., Oneonta.

Putnam.

*John R. Yale, R., Brewster.

Queens.

1. *Andrew Zorn, D., L. I. City.
2. Alfred J. Kennedy, D., Whitestone.
3. Owen E. Fitzpatrick, D., Station J.
4. Harry I. Huber, D., Richmond Hill.

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2. *Bradford R. Lansing, R., Rensselaer.

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George A. Blauvelt, D., Monsey.

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2. *Edwin A. Merritt, Jr., R., Potsdam.

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William M. Martin, D., Saratoga Springs.

Schenectady.

John C. Myers, D., Schenectady.

Schoharie.

*Daniel D. Frisbie, D., Middleburg.

Schuyler.

John W. Gurnett, D., Watkins.

Seneca.

*Charles W. Cosad, Ind. D., Waterloo.

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*John K. Evans, D., Bloomingburg.

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2. *William S. Coffey, R., Mt. Vernon.
3. *Frank L. Young, R., Ossining.
4. *John Ambrose Goodwin, R., White Plains.

Wyoming.

Henry A. Pierce, R., Castile.

Yates.

Frank McA. Collin, D., Penn Yan.

*Re-elected.

BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

The Treatment of Disease. A Manual of Practical Medicine. By Reynold Wilcox, M.A., M.D., LL.D. Professor of Medicine (Retired) at the New York Post-Graduate Medical School and Hospital; Consulting Physician to St. Mark's and to the Nassau Hospital; Formerly President of the American Therapeutic Society; Fellow of the American Academy of Medicine and of the American Association for the Advancement of Science; Honorary Member of the Connecticut State Medical Society; President of the Medical Association of the Greater City of New York; Vice-President of the Society of Medical Jurisprudence; Formerly President of the Harvard Medical Society; Formerly Vice-Chairman of the Revision Committee of the United States Pharmacopœia, etc. Third edition, thoroughly revised and enlarged. Philadelphia. P. Blakiston's Son & Co., 1012 Walnut Street. 1911. Price, $7.50 net.

Modern Treatment: The Management of Disease with Medicinal and Non-Medicinal Remedies. In contributions by American and Foreign Authorities. Edited by Hobart Amory Hare, M.D. Professor of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia; Physician to the Jefferson College Hospital. Assisted by H. R. M. Landis, M.D. Director of the Clinical Department of the Phipps Institute (University of Pennsylvania); Visiting Physician to the White Haven Sanatorium. In two volumes. Volume 1. Illustrated. Philadelphia and New York. Lea & Febiger.

Practical Lessons in Nursing: Fever-Nursing. Designed for the Use of Professional and other nurses, and especially as a text-book for nurses in training. By J. C. Wilson, A.M., M.D., Author of "A Treatise on the Continued Fevers" and "A Handbook on Medical Diagnosis." Visiting Physician to the Hospital of the Jefferson Medical College and to the Pennsylvania Hospital; Physician-in-Chief to the German Hospital, Philadelphia; Professor of the Practice of Medicine and of Clinical Medicine in the Jefferson Medical College; Consulting Physician to the Rush Hospital for Consumptives, the Jewish Hospital, the Bryn Mawr Hospital, the Philadelphia Lying-in Charity and to the Widener Memorial Home for Crippled Children; Fellow of the College of Physicians of Philadelphia; Member of the Association of American Physicians, etc., etc.; Formerly Visiting Physician to the Philadelphia Hospital and St. Agnes' Hospital. Sixth edition, revised and enlarged. Philadelphia and London. J. B. Lippincott Company.

Disease of the Pancreas: Its Cause and Nature. By Eugene L. Opie. Professor of Pathology, Washington University, St. Louis, Mo.; Formerly Member of the Rockefeller Institute for Medical Research and Pathologist to the Presbyterian Hospital of New York City. Second edition rewritten. Illustrated. Philadelphia and London. J. B. Lippincott Company. 1910.

International Clinics. A quarterly of illustrated Clinical Lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pædiatrics, Obstetrics, Gynæcology, Orthopædics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners. By leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A., with the collaboration of Wm. Osler, M.D., Oxford; John H. Musser, M.D., Philadelphia; A. McPhedran, M.D., Toronto; Frank Billings, M.D., Chicago; Chas. H. Mayo, M.D., Rochester; Thos. H. Rotch, M.D., Boston; John G. Clark, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh; John Harold, M.D., London; Richard Kretz, M.D., Vienna. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Carlsbad. Volume IV, Twentieth Series. Philadelphia and London. J. B. Lippincott Company. 1910.

Puerperal Infection. By Arnold W. W. Lea, M.D., B.S. (Lond.), B.Sc. (Manch.), F.R.C.S. (Eng.). Lecturer in Obstetrics and Gynæcology, the University of Manchester, Surgeon, Northern Hospital for Women, Assistant Surgeon, St. Mary's Hospital, Manchester University Scholar and Gold Medalist in Obstetric Medicine. London. Henry Frowde, Oxford University Press. Hodder & Stoughton, Warwick Square, E. C. 1910.

Clinical Pathology in Practice. With a short account of Vaccine Therapy. By Thomas J. Horder, B.Sc., M.D., F.R.C.P. Medical Registrar and Demonstrator of Morbid Anatomy (Late Demonstrator of Pathology and Junior Demonstrator of Practical Medicine) at St. Bartholomew's Hospital, physician to the Great Northern Hospital and to the Cancer Hospital, London. London. Henry Frowde, Oxford University Press. Hodder & Stoughton, Warwick Square, E. C. 1910.

Principles of Therapeutics. By A. Manquat, National Correspondent to the Academie de Medicine. Translated by M. Simbad Gabriel, M.D. New York and London. D. Appleton & Company. 1910. Price, $3.00 net.

BOOK REVIEWS.

A Text-Book on the Therapeutic Action of Light, including the Rho Rays, Solar and Violet Rays, Electric Arc Light, the Light Cabinet. By Corydon Eugene Rogers, M.D., formerly demonstrator of anatomy in the University of New York City. With original illustrations. Published by the author.

This is a handsomely made volume of handy size which is stated to include the Rho rays, solar and violet rays, electric arc light and the light cabinet. All except the Rho rays are summarized in about seventeen pages while the next few pages describe the Rho rays and the bulk of the book describes the symptoms and pathology of many different diseases and their treatment by the Rho rays. These rays Dr. Rogers characterizes by the Greek equivalent of the letter *R* of his own name. The light from a 600-candle-power incandescent bulb with a carbon filament is reflected from a concave mirror within which it is placed. The light is brought to a focus and if allowed to fall upon a sheet of paper shows one or more brilliant points corresponding to the intersection of a number of rays reflected from the concave mirror. The same rays diverge beyond these focus points but we can by no means agree with the author's claim that they have acquired new properties.

One of the illustrations is unintentionally misleading. It shows a photograph with the light and shadows reversed, the face dark and the black ribbon in the hair white. This picture was made by light shining through the hand and through a finished negative to produce an effect on another photographic plate. Of course this second image will be a positive and the print from it will be a negative and the book should have stated that the striking difference between this picture and the ordinary photograph from which it was copied was not due to any peculiarity in the light or to the fact of its passing through the hand. It occurs whenever a second plate is printed from a negative.

The fact that the bones of the hand do not show as they do with the X-ray is nothing new. Who has not held up his little finger and seen the sunlight show a brilliant pink through flesh and bone without any distinction and with scarcely any break in the joints?

The therapeutic applications are those of incandescent electric light either sharply focussed so as to cauterize or covering a larger area, but in each case the "new rays" are referred to. Much of what is said is recognized fact as to the value of phototherapy, but many of the claims of therapeutic efficacy are hard to believe.

Sinclair Tousey.

OBITUARY.

Christian Archibald Herter, M.D.

In the death of Dr. Christian A. Herter the profession of the State has lost one of its most distinguished members. He was a man of independent means and was free to follow his natural bent along lines of scientific medical research. To the general public and even to the great body of the profession he was little known, but to scientific investigators in this country and in Europe he was well known and fully appreciated.

Dr. Herter graduated at the College of Physicians and Surgeons in 1885. He first became interested in nervous diseases and wrote an excellent text-book on "The Diagnosis of the Nervous System." It was, however, the disturbance of metabolism associated with nervous disorders which soon attracted his attention and led to the establishment in his own home of a research laboratory where for many years metabolism experiments have been conducted. He was elected Professor of Chemical Pathology in Bellevue Medical College in 1898. His lectures in that institution were subsequently put in book form. Later he was made Professor of Pharmacology and Therapeutics in the College of Physicians and Surgeons, which position he continued to hold up to the time of his death. With Dr. J. J. Abel, of Baltimore, he founded the *Journal of Biological Chemistry,* and during the early years of its existence he was practically its supporter. His contributions to experimental medicine have been many and of the highest order.

Dr. Herter was a member of the Referee Board appointed by President Roosevelt to con-

sider the question of the addition of preservatives to food stuffs. He was one of the original Board of Directors of The Rockefeller Institute for Medical Research and has had much to do with shaping the policy of that institution. At the time of his death he was one of the attending physicians to the Rockefeller Institute Hospital. An enthusiast in the prosecution of scientific knowledge himself, he was a source of inspiration to all, especially the younger men who came within his influence, and was to them a great stimulus. Personally he was a man of high culture and great charm. For two years he had been in very poor health but his death occurred quite suddenly from the development of pneumonia.

WILLIS GOSS MACDONALD, M.D., LL.D., Died of pneumonia, at Albany, N. Y., on December 30, 1910, was born at Cobleskill, N. Y., April 11, 1863. He was a descendant of Benjamin Macdonald, who came to this country from Scotland in 1759, first locating in Coeymans, N. Y., and later Schoharie County. Dr. Macdonald graduated from the Cobleskill Free Academy in 1878, attended the Albany State Normal School, and Cornell University. He was a student in the office of Dr. Albert VanderVeer, and was graduated from the Albany Medical College in 1887. As a student he was noted for his thorough industry and for his original observation, made then at a time when the old surgery was passing away and antiseptic surgery and bacteriology were claiming the attention of all thoughtful workers in the profession. After graduation for eighteen months he was house surgeon at the Albany Hospital, after which he went abroad, spending a year at the University of Berlin, where he took special courses in surgical pathology, bacteriology and general surgery, coming directly under the instructions of Professors August Martin, Ernest Von Bergmann and their assistants. Later he spent some time in the hospitals of London. After locating in Albany he was for sometime associated with his former preceptor, Dr. A. VanderVeer, becoming successively instructor, lecturer and professor in the Albany Medical College. Fond of his association he became assistant attending surgeon at the Albany Hospital from 1892 to 1897 and has been attending surgeon since. He has served as consulting surgeon to the General Hospital, Westfield, Mass., since 1900, also as a member of the Board of Education of the city of Albany, and one of the original Board of Trustees of the New York State Hospital for Incipient Pulmonary Tuberculosis at Raybrook. He was surgeon in the United States Volunteers, with the rank of major, in the Spanish-American War; was the principal organizer of the South End Dispensary, Albany, having served as president of its staff since; was a member and ex-president of the Medical Society of the County of Albany, also the Medical Society of the State of New York; a member of the International Congress of Surgeons; Fellow of the American Surgical Association; a member of the American Association of Obstetricians and Gynecologists, of the Pan-American Medical Congress, the 10th, 11th and 12th International Medical Congresses. Dr. Macdonald was a man of dominating influence in the civic and professional organizations with which he was connected. He was a member of the Fort Orange, Albany and University Clubs.

He embodied every quality of sterling manhood. He possessed a rare and diversified genius, a mind tuned to the highest ideals. He was a warm advocate and lover of all that was true, good and beautiful in life and character; a strong thinker, and a man of immeasurable resource. He had a remarkable capacity for attaining knowledge, of holding it ready for use and imparting it in a forceful manner. He was one of the eminent surgeons of his day. His writings received prompt attention and were standards of expression upon all topics upon which he wrote. He was a masterful operator and original in the application of his knowledge of surgery. This knowledge was used most successfully in the difficult operations that came to him in his large practice. His early surgical experience was in an atmosphere of advanced abdominal surgery and later, in the doing of this kind of work, he showed his greatest skill and dexterity. He had a host of warm friends among the members of his profession, and his influence was always deeply felt, his opinions greatly respected. Dr. Macdonald was the recipient of many signal honors during his career. He was a man of varied ability, was an extremely successful student in medico-legal work, and was not infrequently employed as a medical expert in some of the most complicated cases presented in the courts in and about Albany. He was a deep student of literature, a fluent conversationalist and told a story effectively and pointedly. He made his reputation early and retained a foremost position in the comparatively few years in which he did his work. He had a most loyal affection for his friends and retained the respect of those whom he opposed.

DEATHS.

Henry W. Boorn, M.D., Schenevus, died November 8, 1910.

C. Cole Bradley, M.D., New York City, died December 30, 1910.

J. Swinburne Hopkins, M.D., New York City, died December 19, 1910.

D. S. Kellogg, M.D., Plattsburg, died December 20, 1910.

Willis Goss Macdonald, M.D., Albany, died December 30, 1910.

Julius Pohlman, M.D., Buffalo, died December 6, 1910.

NEW YORK STATE JOURNAL OF MEDICINE

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EDITORIAL DEPARTMENT

THE SWEET REASONABLENESS OF THE ANTIS.

SOME time since an anti-vaccinationist, who signed himself president of a philosophical society, issued a challenge to the medical profession inviting five of its members to submit themselves to the inoculation of a "pure virus of small pox" to prove the benefits of vaccination. The challenger was entirely ignorant of the fact that no pure virus of small pox exists and that the pustules of small pox swarm with pyogenic organisms derived from the skin. Therefore, the conditions of the challenge were impossible of fulfillment. He is prudent enough, however, not to suggest the test which Osler invited, that five unvaccinated antis subject themselves to the contagion of small pox in the ordinary way, promising to care for them when they came down with the disease free of cost. The antis are prudent folk. Many have been the physicians, however, who have subjected themselves to this test in the line of their duty. None of them have ever contracted the disease. Argument and statistics, the experience of the army in Cuba, Porto Rico and the Philippines, where vaccination exterminated the disease before epidemic in those parts, all fail to convince men who are like the Scotch elder, willing to be convinced, but "where is the mon who can do it?" A man who subscribes himself as president of a philosophical society ought to be philosophical in his reasoning and sure of his premises before issuing a ridiculous challenge which exposed his ignorance of the subject and unfitness to deal with it.

Similarly the anti-vivisectionists exhibit their sweet reasonableness when they invite the scientists of the Rockefeller Institute and other laboratories to submit to be investigated by a committee composed of two doctors, two lawyers and two representatives from the humane societies.

The spokesman of this particular variety of anti calls such a committee "non partisan" and deplores the narrowness of the medical profession in declining investigation at the hands of a committee in which they would be a minority of one-third. Mr. Bellamy does not explain what special fitness two lawyers would have to pass upon the necessities or merits of experimental work on animals, yet if a piece of work in the laboratory is neither necessary nor meritorious and promising, no laboratory director would permit it. Of course, every one will at once see the reasonableness of placing on the committee two representatives from the humane societies to pass upon such questions, since their non-partisanship is quite obvious and their capacity for passing on the importance or necessity of laboratory problems at least as great as that of their proposed colleagues, the lawyers.

This is the non-partisan committee which the Bayne-Goodspeed bill aims to inflict on the medical profession: "The society's desire is that impartial and *expert* inquiries be made into the matter," says a life member of the S. P. C. A., but are two lawyers and two representatives of the humane societies constituting a majority of the committee, the gentleman's idea of impartial experts? Impartial the representatives of the society are not and they would be as qualified experts as the lawyers. The real experts are men

like Wm. Welch, of Johns Hopkins; Cannon, of Harvard, and Keen, of Philadelphia, men as interested in the welfare of the humane race as the antis are in rats and mice. The testimony of such men is, however, laughed to scorn by busy bodies who think the medical profession to blame because it "blocks all attempts to investigate it"—by whom? By men qualified to judge of its acts? By men competent to weigh its motives? No, but by a committee which is neither expert nor non-partisan, packed in the interests of rats and mice and against the interests of the children of men. "By their fruits ye shall know them!" We do not ask to be judged by hostile and partisan investigating committees, arranged by the avowed enemies of research work. Judge the Rockefeller Institute and kindred laboratories by their fruits, the medical profession by its work. But what are the fruits? What are the works? We may summarize them all in a phrase. The present control and ultimate extinction of contagious disease.

A. T. B.

THE STRENGTH OF DRUGS.

In this day of greater scientific attainment in medicine it is not difficult to forecast the leading features of drug therapeutics in the future. As we become accustomed to the certain effects of specific sera and vaccines we shall not be satisfied with hit or miss medication by drugs. It follows that in the future we shall use fewer drugs but use them with greater precision. Already the plea of teachers of therapeutics in this direction is being recognized in state board circles, so it is safe to say that the near future will see our materia medica restricted to essential drugs and that these will be learned more thoroughly and applied more intelligently. It seems also certain that, to insure greater definiteness of action, it will be demanded that our medicinal preparations shall possess a positive and definite action as determined by standards of activity, just as is now required of an antitoxin. Such preparations will cost more, but their use will mean a greater saving of life and shortening of disease.

Contrasted with this forecast what is the present situation in respect to standardization of drugs? Practitioners as a rule are indifferent, but take and use without question such preparations as are dispensed. The medical press is comparatively silent, thus missing an opportunity of educating the profession in a most important direction. Scientific pharmacology has come to the rescue, for not the least value of a laboratory course in pharmacology resides in the schooling it gives the student in working with drugs of a definite standard or in fixing a standard by observing their activity.

An argument for the need of standardized drugs is easily found in the generally known unreliability of certain preparations; but more convincing, because more definite, are the laboratory findings in comparative tests. For example, in Bulletin No. 48 of the Government Hygienic Laboratory, are given the results of tests of digitalis preparations by a number of observers in different countries, which go to show that the usual preparations of this very important drug vary in degree of activity from 1 to 4 times. We shall not long be willing to use preparations of such variability.

Standardization being imperative, it must be observed that all drugs do not admit of the same method being applied to determine their medicinal value. Many preparations, especially those containing active alkaloids, may be tested by a chemical determination of the amount of active principle present; others, as digitalis and ergot, because of less definiteness of active principles, do not so easily admit of chemical assay. To meet the need of testing such, some special physiological tests will have to be recognized. In case of preparations of ergot and of some other drugs it will be necessary to determine a minimum period of efficient activity, as is now done with antitoxin and cowpox vaccine. In this connection it is important for the practitioner to know that the work of chemical standardization has been largely done for those drugs of importance whose composition admits of chemical assay, and that the results are at his command in the U. S. Pharmacopœia. In no point has the improvement of this book been more marked during the last two decades than in the development of chemical standardization. To be specific, while the revision of 1890 gave assay processes for cinchona, opium, extract and tincture of opium and extract of nux vomica (5 articles), the next revision, now official, contains assay processes for 47 different substances with 33 additional applied to their preparations (80 articles in all).

A moment's reflection will serve to convince one that it may be as important to standardize the finished preparation as it is to use a standardized drug in making the same; for, as drugs deteriorate with keeping, preparations made at different times from the same drug may vary in activity. It might require some readjustment on the part of the retail pharmacist in order to furnish standardized preparations, but it would simply be following the Pharmacopœia and employing its rich resources in this direction. Moreover, the pharmacists helped make the Pharmacopœia and they are doubtless ready to stand by its provisions.

The great work already accomplished should command our appreciation and we ought to recognize the service rendered by pharmacy in bringing it about. And we should understand clearly that, in spite of existing indifference, the time is now here when the physician not only may, but should, expect the dispenser to use standardized drugs and preparations so far as the Pharmacopœia gives assay processes for them.

Eli H. Long.

Original Articles

TUBERCULOSIS PERITONITIS.*

By NATHAN JACOBSON, M.D.

THE keen interest which has been universally awakened in the study of all forms of tuberculosis, justifies the consideration of the tuberculous invasion of the peritoneal cavity at this time.

In 1862, Spencer Wells, operating upon a patient whom he supposed was suffering from an ovarian cyst, found free ascitic fluid and the abdomen studded with nodular growths. Contrary to his expectations his patient made a permanent recovery. This experience made practically no impression upon the profession. It was in 1884 that Koenig recognized the true nature of this affection. He was the first to discriminate between tuberculous and other abdominal conditions producing ascites and to deliberately recommend operative treatment for tuberculous peritonitis.

In the quarter of a century which has elapsed the opportunity to study this pathologic process has been so abundant, that we should be able to reach some definite conclusions at this time.

Reviewing the statistics gathered from the hospitals of various parts of the world it would appear that tuberculous peritonitis has been found in 3.5 per cent. of all of the bodies subjected to post-mortem examination. In only 2 per cent. of these cases was the peritoneum apparently the primary seat of the disease. Other organs have usually been found coincidently diseased. Thus at autopsy 84 to 92 per cent. of those dying of tuberculous peritonitis exhibited pulmonary tuberculosis and from 65 to 74 per cent. tuberculous processes in the intestines. In 10 per cent. of the cases there was general tuberculosis. It must be remembered, however, that these are the findings at autopsy. It would be unfair to assume that a similar condition presents itself to the surgeon on the operating table. It is self-evident that by the time primary tuberculosis of the peritoneum has advanced sufficiently to cause death, evidence of secondary invasion of other structures will be found.

Heredity seems to be an important factor. In from 20 to 40 per cent. of the cases there has been a tuberculous heritage. An occasional congenital case has been reported. Manclair and Alglave report one, of a child, who began vomiting when three days old and died on the sixth day. The autopsy showed advanced tuberculous peritonitis with intestinal obstruction. Brouardel has placed on record the case of a child who died at the age of ten weeks of tuberculous peritonitis. In each of these instances the mother had tuberculous disease of the genitalia.

Tuberculous peritonitis has been encountered frequently during infancy. In the hospitals of Boston, it has been observed that when occurring during this period of life it is usually a manifestation of general tuberculosis. Its occurrence in childhood, however, is not uncommon. It has indeed been noted that children from eighteen months to two years of age form a particularly favorable group for cure by operation. The youngest patient upon whom I have operated was twenty-two months old. The disease had been present for at least six months. He was exceedingly weak and indeed marasmic. He made a good recovery, and now, at ten years of age, enjoys excellent health and freedom from any tuberculous manifestation.

In the United States, the disease has occurred most frequently prior to the thirtieth year of life. Nothnagel on the contrary reports a series of personal cases in about 60 per cent. of which the disease appeared later than the thirtieth year.

However, it may be explained, by far the greatest number subjected to operation have been women. Mayo states that the disease occurs four times as frequently in the female as in the male. On the other hand it has been found by the pathologists that this statement is not warranted and that in reality the peritoneum is invaded by tuberculosis more often in the male than in the female. Bircher in collecting the statistics of various German hospitals found in 452 autopsies where death had been caused by tuberculous peritonitis that 338 or 74 per cent. were males. Bybee reviewing the autopsies performed at the Cook County Hospital of Chicago reported that of those having died of tuberculous peritonitis all but two were males.

Traumatism has been occasionally responsible for the awakening of the tuberculous process in the peritoneum. It is said to be due to rupture of tuberculous mesenteric lymph nodes. One of my cases followed a fall from a bicycle. It is interesting to note that in all of the traumatic cases the course has been very acute and the termination usually rapidly fatal.

The time allotted to this paper will not permit a thorough consideration of the method of invasion of the peritoneum by the tubercle bacillus. The recent thought is that in the various forms of tuberculosis the portal of entry is the digestive tract and from thence the bacilli are disseminated to the lungs or other parts of the body. Murphy is of the opinion that in the male the disease travels to the peritoneum through the intestinal route but in the female it is more frequently the result of an ascending invasion of the genital apparatus. However, it has been found that while the fallopian tubes are very frequently the site of tuberculous disease, the fundus of the uterus is much less often involved and the uterine cervix and the vagina rarely. This would hardly be in accord with what we should expect to find if the process had been transmitted to the peritoneum through the genital route. On the contrary, it would seem that the tubal invasion had

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originated from the peritoneum as the result of contiguity.

Cases of tuberculous peritonitis are usually divided into three groups. The first includes those in which there is a marked accumulation of fluid, the second in which there is a plastic exudate leading to the formation of adhesions and the encapsuling of the tuberculous masses, the third in which caseous processes advancing to suppuration are present. In the latter we have to deal with a mixed infection. Most surgeons make a simple classification into ascitic and dry forms.

The fluid present in the free peritoneal cavity in the ascitic type may be clear and yellow or sero-fibrinous. It is occasionally hemorrhagic and rarely purulent. The amount varies and only occasionally is it possible to demonstrate in the fluid the presence of tubercle bacilli. Tubercles are found upon the peritoneum in great abundance varying in size from a millet seed to distinct nodules. Adhesions may produce cystic collections or occasion the constriction of the intestines. The mesentery is invaded and the omentum is usually contracted and drawn to the upper and left portion of the abdominal cavity. Cirrhotic changes in the liver and spleen are frequently present. The mesenteric and retroperitoneal lymph nodes may be extensively involved and even constitute large tuberculous tumors. The parietal peritoneum may be so thickened and invaded by tuberculous nodules as to be one-half inch or even an inch in thickness.

In considering the clinical picture it appears that in a large percentage of the cases, perhaps more than one-half, the acute outbreak is preceded by a prodromal period covering many months during which the patient suffers from loss of appetite, malaise, vague abdominal symptoms and irregular action of the bowels. When the symptoms become suddenly acute there may be severe abdominal pain, rise of temperature, increased loss of appetite, gastric distress and vomiting. Urinary disturbances are very frequently present as are also menstrual irregularities. About two-thirds of the patients have some disturbance of bowel function. In about one-half there is alternating diarrhœa and constipation, a smaller number complain of constipation, while in occasional instances there is persistent diarrhœa which may be associated with colic.

Maylard makes the statement that when general emaciation, loss of appetite, diarrhœa, furred tongue and evening rise of temperature are known to exist prior to the manifestations of any positive abdominal symptoms it is fair to assume that tuberculous ulceration of the bowels has preceded and been the cause of the tuberculous peritonitis. About four-fifths of the patients suffer from abdominal pain, and associated with it there may be areas of tenderness. If the latter condition is particularly evident in the neighborhood of the fallopian tubes these structures will probably be found involved. The most constant local manifestation is increase in the size of the abdomen. This is usually dependent upon the presence of ascitic fluid but in the dry cases it is due to tympanites. Thomayer laid stress upon the presence of a dull area to be found in the left upper quadrant of the abdomen and which is due to the retraction of the omentum, while in the right lower quadrant there is frequently a tympanitic area. This has been named the Thomayer sign. The presence of ascites or tympanites may be responsible for dyspnœa. Emaciation is evident in fully 80 per cent. of the cases. Many patients have no distressing symptoms whatsoever and their first manifestation of the trouble is a gradual increase in the abdominal circumference.

However, in more than one-half the cases, by the time the abdominal manifestations are sufficiently evident to warrant the diagnosis of tuberculous peritonitis, tuberculous invasion of other organs can be demonstrated. Blood examinations have been frequently made and as a result, Stone has stated that marked leucocytosis associated with tuberculous peritonitis indicates the presence of sepsis in some form and that non-septic cases are attended with a low leucocyte count.

The diagnosis of tuberculous peritonitis is frequently attended with difficulty. The evidence of pre-existing tuberculous disease in other parts of the body is suggestive. In every case the lungs should be carefully examined and in women search should be made for the presence of any pelvic disease. The diagnosis, however, cannot be established with certainty until positive changes can be recognized in the abdomen. The presence of abdominal tumors has been frequently suspected, but when the abdomen has been opened tuberculous invasion of the peritoneum has been discovered. Gelpke supposed that he was operating for sarcoma in one instance and for myoma of the uterus in another, but each time found tuberculous peritonitis. Holmes and Eisendrath diagnosticated the condition to be hydropyonephrosis. Tuberculous peritonitis has been known to simulate cysts of the liver, tuberculous kidney and appendicular abscess.

One of my cases, a man sixty years of age, presented a history of having had pulmonary tuberculosis early in life. Physical examination of the chest disclosed the presence of latent tuberculous disease. At the time of the examination there was marked ascites, moderate fever and the patient had been suffering from alternating diarrhœa and constipation. The omentum was retracted and drawn to the upper part of the abdomen. When the abdominal cavity was inspected through an incision, innumerable nodules, apparently tuberculous in character, were found covering the parietal peritoneum, the intestines, gall bladder and

stomach. I excised a piece of the omentum. Microscopic examination of it was made by Dr. Steensland, who reported the condition to be one of carcinoma. The subsequent clinical course verified this diagnosis. In this class of cases, microscopic examination of the structures removed can alone determine the diagnosis. Pathologic examination of the suspected tuberculous masses has in other instances shown them to be of fibromatous character.

Tuberculous ascites is of more rapid development than is an ovarian tumor. When the accumulation of fluid is dependent upon a non-tuberculous form of cirrhosis of the liver the fluid is usually of darker color. Occasionally tuberculous peritonitis has been mistaken for typhoid fever. In one of our cases this question was raised, a differentiation was made by the use of tuberculin. The reaction following its use was exceedingly violent and for a time the patient was seriously sick. In the end, however, she made a complete recovery.

Of late tuberculin has been used for diagnostic purposes, but in most cases it has not been of material assistance. The ascitic fluid has also been inoculated into animals for the purpose of diagnosis, but even when subsequent operation has demonstrated that the condition was undoubtedly tuberculous, the injections into guinea pigs and rabbits have been more often negative than positive.

In 1890, six years after Koenig had recommended simple incision of the abdomen as a cure for this condition he was able to report upon 120 cases treated surgically by himself and others. The results were apparently so satisfactory that the operation was received with great favor. True, some surgeons of eminence like Czerny, questioned its efficiency, stating that as tuberculous peritonitis was with but few exceptions a secondary manifestation and the operation proposed was so little radical they could not believe it would stand the test of time.

Experience has proven that the removal of the active tuberculous focus will often favorably influence other tuberculous processes existing in the body. I have, for example, excised a tuberculous hip and have noted the arrest of coincident pulmonary tuberculosis, even when pulmonary hemorrhages had been of frequent recurrence. Again, I have performed laparotomy in the ascitic variety of tuberculous peritonitis and as a result have not only cured this condition but also witnessed the disappearance of effusion from each of the pleural cavities. However, we must carefully consider the character and extent of co-existing tuberculous processes in determining upon operation and predicting the subsequent course of the case.

It is generally stated that the ascitic type yields the best results. I should question this statement as I have had dry cases terminate quite as favorably. Unquestionably the most unpromising cases are those in which there is a mixed infection which has advanced to suppuration.

Observation has taught us that many cases of tuberculous peritonitis are cured spontaneously. The importance of hygiene and diet is not to be overlooked. Rest in bed combined with the open-air treatment and nutritious foods have so frequently resulted in a cure that Borchgrevink has put forth the claim that a larger percentage can be successfully treated by these means than by surgical measures. No less eminent a surgeon than the late Dr. Fenger, of Chicago, asserted that nature cures tuberculosis of the peritoneum better than the surgeon. The value of medication is doubtful. There are those who maintain that iodine exercises antitoxic as well as bactericidal properties. In the cases associated with intestinal lesions I have reason to believe that guaiacol has been helpful. External applications have been used. Knox strapped the abdomen, claiming benefit from the restriction of movements and the resulting pressure. The application of mercurial inunction has been held responsible for a cure in at least one extreme case. Serum-therapy is likewise being recognized as of value. The serum of Marmorek has yielded good results even after surgical procedures had failed. In the excellent work of Maylard on abdominal tuberculosis, this method of treatment is discussed but not recommended. Riviere, at the annual meeting of the British Medical Association, in 1907, discussed the value of tuberculin in tuberculous peritonitis affecting children. He insisted that nearly all of his patients improved rapidly under its use.

The X-rays have also been of material assistance both in the cases which were too mild to require surgical attention as well as for those whose condition was too extreme to warrant surgical operation. In a class of cases in which the fluid re-accumulated after operation the X-rays often associated with the high frequency current have been used to arrest and favor the absorption of the fluid. In some instances where the condition seemed hopeless sufficient improvement has followed their use to warrant subsequent operation.

When Koenig recommended incision of the abdomen for the cure of tuberculous peritonitis it was assumed that the withdrawal of the fluid was all-important. It is not surprising therefore that simple tapping of the abdomen was recommended about twenty years ago. Certain French, Italian and Viennese surgeons claimed that they had cured a number of cases by either simply withdrawing the ascitic accumulation or after its removal irrigating the peritoneal cavity with normal salt solution, or sterile water, or inflating it with sterilized air. That these procedures did not meet the requirements soon became evident. In thirty-one cases operated on by Thoenes eight had been treated previously by tapping. Drainage of the abdomen has like-

wise been recommended. Ochsner reported the case of a married woman, twenty-six years of age, whose ovaries, tubes and uterus were imbedded in a tuberculous mass so fixed and extensive as to render their removal hopeless. Added to this, the cecum and small intestines as well as the omentum were matted together and the visceral and parietal peritoneum were studded with miliary tubercles. He introduced a drainage tube expecting to give the patient only temporary relief. She made a slow recovery and ultimately became entirely well. Eleven years later he was able to report that she was a strong healthy woman and had in the meantime given birth to two healthy children.

A great variety of bactericidal drugs have been introduced into the open abdomen in the course of operative procedures such as solutions of salicylic acid, thymol, carbolic acid and corrosive sublimate, while iodoform for many years was credited with possessing positive curative properties for tuberculous processes.

Many explanations have been offered to account for the cures effected by operation in tuberculous peritonitis. Surgeons have attributed it to the admission of sunlight, to the antagonism produced by the admission of the bacteria introduced at the time of the operation; to the irritation resulting from manipulations incident to the operation; to alterations effected in the circulation whereby pressure upon the blood-vessels and lymphatics is relieved; to the activity of the circulation which had been stimulated; to the production of adhesions and the consequent isolation of tuberculous masses and to the stimulating effect of the exposure to the air. By experimental study on animals Gatti has demonstrated that after the performance of laparotomy in tuberculous peritonitis a bloody serum collects in the abdomen which possesses bactericidal and antitoxic properties. To this serum he attributes the cure.

Whether the simple procedures referred to are all-sufficient has been questioned. If Murphy and the Mayos are correct in maintaining that the disease is usually of genital origin in women the removal of the fallopian tubes is imperative. Without doubt these tubes are frequently the storm-center whether their involvement follows an ascending genital tuberculosis or extension from the peritoneal disturbance. If their removal can readily be accomplished this should be done. When, because of the extensive implication of the pelvic viscera it has not been possible to accomplish this step, without great risk, it has frequently occurred that simple laparotomy has not only inhibited the tuberculous process but in time all evidence of disease has disappeared. As the appendix, particularly in the male, has been found often involved, it should always be examined and removed if it exhibits any evidence of disease.

Of prime importance is the selection of the opportune time for operation. Experience has shown that if the operation be performed during the acute stage of tuberculous peritonitis it has been much more fatal than if it be done after the disease has become quiescent. It has been demonstrated that the wise course is to give nature an opportunity to erect her own protective barriers. Great care must be exercised in dealing with intestinal adhesions. Fecal fistulæ often fatal in their termination have frequently resulted from too energetic manipulations.

The failure to cure by a single operation does not preclude the performance of a subsequent laparotomy. D'Urso operated four times in the course of nine months upon a given case and in the end secured a perfect recovery. Murphy has collected the histories of seventy patients in whom recurrent operations were performed with a happy result. W. J. Mayo has reported a series of cases in which he cured by more radical operations after simple laparotomy had failed.

From the study and experience with tuberculous peritonitis for the past quarter of a century we are justified in concluding that its treatment is far from hopeless. All of the patients should have the benefit of the best hygienic and therapeutic measures. These are as essential as in pulmonary tuberculosis. Only after they have been fairly tried and not until all acute manifestations have subsided and the disease has become stationary should operative treatment be instituted. The extent of the surgical operation will be indicated in each individual case by the conditions encountered. Evident involvement of the appendix or the fallopian tubes justifies their removal provided this can be accomplished without great risk or damage to the intestines. X-ray and high frequency treatments should be used judiciously either before or after surgical operation and in a few cases will be found to replace surgical treatment. Tuberculin as a therapeutic agent will unquestionably play a more important role in the future than it has in the past.

SOME DERMATOLOGICAL OBSERVATIONS OF INTEREST TO THE GENERAL PRACTITIONER.*

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THE invitation to read a paper before this Association was accepted with considerable hesitancy, because I feared that one devoting special attention to dermatology would be unable to offer much of interest to a society composed mainly of general practitioners; but your President encouraged me to accept by telling me that I should give a general talk on dermatology, recording some of my personal observations, and reminded me that what my hearers wanted was

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some common sense remarks about the skin diseases which they were constantly seeing.

Therefore I have selected for consideration some dermatological observations and remarks upon a few of the more common skin diseases.

As a rule, diseases of the skin receive but little attention from the physician and surgeon, this lack of interest was induced by the faulty method of teaching dermatology, that until recently obtained, in most of the medical colleges. These lectures, though supposed to be clinical, were delivered to the whole class from the pit of an amphitheatre. A clinic given under such circumstances is a waste of time, and this is more emphatically true when the subject is dermatology. The students in the back seats are unable to see the gradations of color and the variations of shape and type of the lesions and have to take the lecturer's word, and as it is quite impossible to accurately describe the clinical appearance of any skin disease, the student became confused, and after listening a few times to lectures that seemed to be made up of unpronouncable names, cut the hour whenever he could.

Is it then surprising that the physician so often considers skin diseases the terra incognita of medicine, and is apt to class them as incurable, or consider them too trivial for careful observation.

The rôle of the physician is to relieve distress, and a little study of dermatology will show that most skin diseases are distressing, both subjectively and objectively.

As for the incurability of these disorders, while there are many that are frankly so, most of the dermatoses can be cured, or at least the patient can be made comfortable and his life prolonged.

The diagnosis, understanding and treatment of skin diseases have made rapid progress during the last decade, and dermatology of to-day is no longer a specialty weighted down with unpronouncable nomenclature and confusing classification; but it has taken its place with the other branches of medicine, and is a specialty of scientific facts and certain accomplishments.

This science has advanced beyond the point where it consisted mainly of differentiating between the various lesions and the ability to accurately record those observations, now, the aid of the pathologist, bacteriologist and internist are being more and more eagerly sought.

The time is rapidly approaching when the general practitioner, be he physician or surgeon will co-operate with the cutaneous specialist. The benefit will be mutual, for the exchange of views with the general practitioner will enable the specialist to keep the broad and comprehensive view of medicine which is so essential, while to the general practitioner it will bring the aid of one whose eyes and fingers have been trained to see and feel conditions and symptoms that can only be detected by those who have had the opportunity of observing many cases.

This exchange of views between the general practitioner and the dermatologist will soon remove skin disease from the region of outer darkness to which they have so long been relegated.

In order to introduce the consideration of the more common diseases of the skin I have ventured to divide all of the dermatoses into three groups.

First.—Those diseases that are more or less cosmetic defects.

Second.—Those that cause the patient to seek relief from the pain or discomfort.

Third.—Those diseases that are intractable to treatment or frankly incurable.

Out of the first group "those diseases that are more or less cosmetic defects" there have been selected for consideration comedones, acne, seborrhœa and premature alopecia.

Comedones, the forerunners of acne are so frequently a condition of the development period that the family physician rarely pays any attention to them unless he is especially consulted. Of course, many cases of comedones disappear without any serious results, that is, acne does not follow, but in spite of this all patients that have this disorder of the sebaceous glands are worthy of the physician's consideration, for if the altered secretion is made normal, the after results, acne, acne rosacea and scarring can, in most instances, be avoided.

The best medicine is preventive medicine, this is especially true when the sebaceous glands are involved.

The young person should be trained in cutaneous hygiene, he should be taught how to keep his skin clean, but he should also be warned against hyper-cleanliness; too much soap and hot water tend to over stimulate the sebaceous system, and the glandular apparatus is thrown off its equilibrium.

Attention directed to the youth's digestion, regulation of the quantity and quality of the food, expression of the comedo, followed by some mildly stimulating lotion will generally suffice to bring about a cure of this disease.

If the disordered cutaneous glands have not received treatment, and the chronic over stimulation and irritation has caused acne to develop, more vigorous methods must be persued.

The acne papule must be opened, the diseased skin massaged, and if it is acne indurata, curettage must be resorted to; it is in this type, the vaccine therapy is of great use. Injections of vaccine made from the dead stapholococcus or the Flemming-Gilchrist acne bacillus will be found useful adjuvants to the ordinary methods of treatment.

Internal medication consists of digestants and correctives for the faulty metabolism. Arsenic has no especial effect upon this disease, and is never given unless it is indicated for its tonic effect.

It is unwise for the family physician to assure

his young patient that he will outgrow the disease, it is true that it will subside with age, but often leaves behind a permanently marred skin.

Acne is a disease worthy a physician's time and attention, for he not only cures a disfiguring dermatosis which occurs at the time of life when beauty is most desired, but he often also relieves much mental suffering. Especially is this true in the face of young, neurotic girls. It is not the skin disease itself that causes this mental disquietude but the chronic toxæmia from the faulty metabolism.

Consequently all our energy should be directed toward correcting the underlying etiological factor.

Seborrhœa and premature baldness are so often dependent upon each other that one cannot be considered without including the other. It is stated that America is rapidly becoming a nation of baldheaded people. If this is true, and it does seem to be so, the cause is not hard to find. Tight-fitting and unventilated hats, false hair, rats and other beautifying (?) devices, the germ-laden dust of our city streets, too frequent washing of the hair and scalp with over strong alkali and when the hair has been shampooed, improper drying and a failure to replace the natural oil that has been washed away are sufficient causes for this condition.

It is the popular belief that going bareheaded stimulates the growth of the hair; air and light should be allowed to gain access to the scalp, but going without any head covering should be strongly discouraged, for if the hair is constantly exposed to the direct rays of the sun, it becomes dry and friable, and finally falls out.

The argument that the inhabitants of those countries where hats are not worn have luxuriant hair does not hold, for it is to be noted that they always protect the top of their head with some sort of sun shield.

The above mentioned errors of fashion, conditions and beliefs, together with a constitution below par from any cause are the main etiological factors of seborrhœa and its sequel, premature baldness.

The treatment and cure is to a great extent a matter of education. The patient should be taught how to take care of the hair. Too much stress should not be laid upon an inherited tendency. The patient should be helped to forget that his grandfather was bald. In other words assure him that if he persists in the proper treatment and care of the seborrhœic condition, the chances are that he will not be prematurely bald. If the physician, also had more faith, and cared to study the hair and its diseases, it could unhesitatingly be stated, that many cases of baldness could be avoided.

The patient's general health should be put in the best possible condition, the health of the scalp and the growth of the hair should be stimulated by such drugs as sulphur, resorcin and the like, the result would justify the effort, and in time there would be fewer prematurely old looking baldheaded people.

A dermatological paper would not be complete without some reference being made to eczema, boils, and a few side remarks upon psoriasis, so these three diseases have been selected from the second group.

Eczema is such a universally common disease that it would seem that even the laity might almost be able to diagnose and treat it, but unfortunately, it is a fact that many practitioners make mistakes in both its diagnosis and treatment. To one who does not see many examples of different kinds of skin disease, and has to rely upon the descriptions given in the text-books and atlases, all generalized inflammatory eruptions are very apt to bear a fancied resemblance to eczema. Among the many diseases that are often confused with eczema are psoriasis, scabies, and sometimes syphilis. When psoriasis is mistaken for eczema the diagnostician has forgotten that psoriasis is a chronic, scaly disease, attacking, by preference, the extensor surfaces. It is a disease that is very apt to recur, as a rule, it is not pruritic and the lesions never exude serum, while in a general way the converse is true of eczema.

It seems to be the inclination when we are in doubt as to diagnosis to fall back on some obscure disease or phenomena. At present uric acid is being worked overtime as much as malaria used to be. Dermatologists are constantly having cases referred to them labeled eruption from uric acid. There are many other products of faulty metabolism, as for instance indican, that influence and outbreak of certain skin diseases rather than uric acid, in fact uric acid *per se,* has, perhaps, the least effect of all.

Scabies is a disease that is constantly being diagnosed as uric acid eruption (uric acid eczema). Those who fall into this error forget that scabies is a parasitic disease, and highly contagious. True they are often misled by the absence of some of the classical symptoms, as for instance, there may be no eruption between the fingers and about the wrists; but they fail to note it on the penis and about the breasts, forgetting that lesions on these two places are characteristic of the disease.

Scabies is not a disease of the dirty, as is so commonly supposed, for many a hyper-cleanly person can and does contract the disease, but those who indulge in frequent baths, may have the disease in such a modified form, that one who is not familiar with all of its features could easily mistake it for some type of eczema.

The treatment of eczema has always been a problem to the general practitioner and will continue to be so as long as he hopes or expects to treat and cure the disease in a routine manner; there is no one remedy that is applicable to all cases, neither will one prescription suffice to bring about resolution in any one attack. Each attack, each different stage of the disease, and every patient has to be studied separately.

There are certain primary rules, however, that if remembered will aid materially in the management of this common cutaneous disorder.

First.—The treatment of eczema does not consist of external applications alone, for unless it be an eczematous dermatitis from some external irritation, the medication must be directed toward the underlying etiological factor, be it gout, rheumatism or any other result of faulty metabolism.

Second.—All cases of eczema are not cured by applications of ointment, in fact salves have only a limited usefulness, for when they are intelligently employed they are indicated only when a resorbent and stimulant action is called for, as in the erythematous papular or indurated type.

Third.—All acute eczemas should be treated with soothing applications, such as calamin and boric acid lotions or lead and opium wash.

Fourth.—Antiseptic powders are indicated in weeping eczema.

Fifth.—Antiseptic lotions such as permanganate, bichloride or boric acid are useful in the pustular type.

Sixth.—An eczematous patch does better if kept clean, in other words, the judicious use of water is not harmful to eczema in spite of the popular belief to the contrary. It would improve nearly all cases of eczema if the diseased areas could be soaked in an emollient water bath.

Old, chronic, indurated eczemas on the legs of elderly people will yield more quickly if the external treatment is begun with a poultice. This relieves the congestion and softens the induration. The poultice is then followed by some stimulating ointment.

The successful treatment of eczema is assured if a correct diagnosis is first made, it is not as believed by so many an incurable disease.

I will not take up the time of the society to consider furunculosis, except to state that boils cannot be aborted as readily as some writers claim. It might also be well to emphasize the necessity of examining the urine of patients who are chronically afflicted with furuncles, for sugar will often be found in the urine when glycoseurea was not suspected. I wish to take this occasion to add my indorsement of the good effects of vaccine in the treatment of boils. The results I have obtained by the use of this method have been uniformly good.

Out of the third group there are only two diseases that we will have the time to discuss, namely syphilis and epithelioma. Strictly speaking neither of these diseases are incurable, provided the diagnosis has been made early enough and the proper remedies have been used.

The subject of syphilis is so extensive that all that can be done here is to touch upon a few points that are very apt to be forgotten.

Syphilis is no respecter of persons. It afflicts the just and the unjust. It is found in the vagrant and the millionaire. Many cases are insufficiently treated, hence the frequency of tertiary lesions on the skin, in the nervous system, and the abdominal organs. Syphilis of the lung may so closely simulate tuberculosis that it would not be bad practice to put the tubercular suspect upon a course of specific treatment before a positive diagnosis is made.

The same remarks are true of tuberculosis of the bones. Gummata of the liver has often been mistaken for abscess and the judicious surgeon would do well to assure himself that his patient is not a syphilitic before he resorts to surgical measures.

In spite of the dictum that syphilitic lesions are non-pruritic, the secondary and tertiary eruptions often itch. This is especially true if the patient is neurotic.

It is well to remember that syphilis is not essentially a venereal disease, for many cases are of extra-genital origin. It is astonishing, but it seems to be a difficult task for physicians to diagnose extra-genital chancres; this is perhaps due to the misapprehension that syphilis is only communicated through sexual congress. I have known physicians who were inoculated with syphilis while performing their professional duties as obstetrician or surgeon, although they were aware of the fact that the chancre could develop anywhere, they never correctly diagnosed the primary lesion until the secondaries appeared.

It does not matter where one practices medicine, be it in the country or the city, he should always be on the outlook for syphilis, and when called upon to make a vaginal examination he should take all the precautions against self-infection.

Syphilis is rarely contracted innocently from a person of ill repute, for then one is on guard, but it is the innocent wife who transmits the disease to her physician, her friends and her offspring.

Many drugs have been tried in the treatment of syphilis and even now there are reports coming from Europe, telling of the wonderful curative effects of a newly discovered arsenical compound. If this new remedy is to be a specific or not remains to be proved. It would not be going beyond reason if one ventured to predict that sometime a specific serum or vaccine will be discovered that will rob this disease of all of its terrors. But until some better drug or treatment is discovered our reliance must continue to be placed upon mercury and the iodides.

It should never be forgotten that mercury is the drug that cures, and that it should be prescribed in all stages of the disease, and that the iodides should be reserved for the late manifestations; there may be exceptions to this rule, two notable ones are the presence of joint and tendon complications, here mercury does no good but sometimes appears to do harm. It has also been noted that in certain throat complications, small doses of the iodides given for a short time will bring about relief much quicker than if the mercury is given alone.

The joint complication just referred to is an interesting one, because of its comparative rarity, its close resemblance to gonorrhœal joint affections and that those in whom it appears are more often robust and plethoric individuals.

The temperature of a syphilitic should be carefully recorded throughout the whole of the secondary stage.

The best way to administer mercury is by inunctions or intra-muscular injections; when this drug is given by the mouth the digestive disturbance it creates nullifies the curative effect.

Syphilographers find that when the iodides are given in moderate doses, the effects are full as good as when it is administered in the enormous doses recommended by our neurological confrères.

The cure of syphilis is wrought by mercury, and the iodides act as its obedient servant. Thanks to the discovery of the spirochæta pallida and the Wassermann fixation test, the diagnosis, treatment and probable cure of syphilis has become simplified and assured. In the light of these recent discoveries it is almost imperative that a suspected primary lesion be examined for the spirochæta, and that a Wassermann be done on all cases of disease where for any reason syphilis is suspected.

The Wassermann test is also a valuable check or control in the course of the treatment, enabling one to keep track of how much good the medication is accomplishing, when it can be stopped, or when the necessity arises for continuance or increase.

According to the statistics compiled by the cancer research committee, cancer appears to be on the increase in America. The experience of the American dermatologist seems to bear out this statement. In view of this, a few observations are timely, for the general practitioner has a better opportunity for seeing cases of cutaneous cancer in their earliest stage than the dermatologist. If a patient seeks advice regarding senile or presenile degenerations of the skin, and if this degeneration is of a warty or scaly, eczematous-like character, the best advice to give is to have the lesion removed, for the tendency, in a vast majority of these cases, is for these degenerate spots to become malignant, especially if they are subject to any traumatism.

The same is true of congenital warts and moles if situated on the upper two-thirds of the face, or in any other location that is subjected to irritation.

Curettage and cauterization is the proper surgical procedure if the malignant growth is superficial and there is no glandular involvment, for the results from this method, if thoroughly and radically done are full as good as those obtained from the more extensive, and sometimes deforming surgical operation.

The treatment and cure of epithelioma with the X-ray and radium is a subject of interest to all, both of these agents have and will cure cancer, and since we have learned how to apply them, a great deal of the risk of accident has been eliminated.

If the malignant growth is small and accessible it is better to remove it surgically, but if it is inoperable the X-ray and radium will sometimes cure, and with a few exceptions it always does relieve the patients pain and suffering.

It seems a waste of time on the part of the physician and a needless expenditure of money on the part of the patient to give from twenty to a hundred X-ray exposures to remove a growth that could be radically cured by surgical means at one sitting.

It is the concensus of opinion that the X-ray is valuable after operations for the removal of cancer, no matter where situated.

Radium has its best application in cancer of the mucous membranes, the buccal cavity, throat and rectum; here it often proves a valuable agent.

These few dermatological observations have brought to mind a number of others, but the paper is already too long, so I will conclude by thanking the President for the honor of an invitation, and the members for listening so courteously to this somewhat disconnected discourse, and also to hope that some of the points brought out may prove of interest.

INFANT MORTALITY IN GREATER NEW YORK.*

By ALFRED E. SHIPLEY, M.D.,
BROOKLYN-NEW YORK.

THE subject of infant mortality from all causes would be one too extensive to treat, so the term will be restricted to deaths from diarrheal diseases.

In the classification of "diarrheal diseases" are included deaths reported as gastro-enteritis, enteritis, colitis, entero-colitis, ileo-colitis, cholera infantum, dysentery and diarrhea. It does not include a variety of conditions classified under "congenital debility" amongst which are marasmus, inanition and immaturity, when these deaths occur under three months of age.

Calculations made from death records are of value in proportion to the accuracy of the reported causes of death. For example, cases of gastro-enteritis with a terminal broncho-pneumonia, giving the latter as the sole cause of death, or cases of broncho-pneumonia complicated by a diarrhea within the last twenty-four or forty-eight hours, and reported as deaths from the latter condition only, will give false ratios to these classifications.

Morbidity from diarrheal diseases, and the resultant mortality therefrom, is of interest to the private physician and to the public health authorities. It is very largely a public health problem, and in addition to the Department of Health itself, must necessarily interest most of the other departments in any state or municipal government. Mention of etiological factors such as

* Read before the Section on Pediatrics of the Medical Society of the County of Kings, at Brooklyn, October 26, 1910.

infection, impure milk and water, improper sanitation, improper dwellings in which are insufficient light and ventilation, weather conditions, overcrowding, proverty, crime and ignorance shows at once that the problem must be attacked from medical, hygienic, educational, sociological and economic standpoints.

The New York City Department of Health in 1876 appointed a "summer corps" of medical inspectors, whose duty was to go from house to house in the tenement districts, inquiring whether any babies were sick, and offering medical aid and information if desired. But the small number of inspectors permitted only a small proportion of the city's population to be reached; furthermore, the work was principally corrective in character, and therefore did not reach the causative conditions producing the high morbidity and mortality rates.

The summer corps work was continued in this way up to the spring of 1908, at which time a few nurses were added to the staff. It was readily seen what an important factor the nurse could be in a comprehensive campaign to reduce the deaths among infants.

The first extensive effort to reduce illness and death from gastro-enteric disturbances in children by preventive methods, was made when the Division of Child Hygiene was organized on August 19, 1908. This division concerns itself with every phase of child health from birth to puberty, and in addition to the prevention of diarrheal diseases, includes under its jurisdiction, the supervision of the practice of midwives; the licensing and supervision of women boarding foundlings; the sanitary supervision of day nurseries and institutions for dependent children; the medical inspection and examination of school children; the issuing of employment certificates to children over fourteen years of age who have complied with provisions of the child-labor law.

The activities of the Division of Child Hygiene in the care of babies and the instruction of mothers are at present confined to the period of the year between April 15th and September 15th. A truly effective campaign along these lines must be conducted every month throughout the year, but this can be done only with an enlargement of the staff. If the members of your society who appreciate its value would urge upon the city the need for this work, it would greatly aid in securing the necessary funds.

The Work of the Nurses.

On April 15th, both of this year and the year preceding, about 140 nurses were detailed to make home visits to the mothers of all children under two years of age in the tenement districts of the city.

The duties of the nurses included:

1. Personal visits to mothers of children under one year.
2. Instruction of such mothers in the feeding, clothing, bathing and general care of babies.
3. Distribution of tickets for free ice, for modified or pasteurized milk, for outings, etc.
4. Reference of cases of destitution and sickness to the proper public or private charitable agencies.
5. Demonstrations of the manner of preparing food for babies, and of the methods of caring for well and sick babies in connection with the lectures given by the medical inspectors.
6. Nursing of sick babies in cases under the care of the medical inspectors.

Each nurse receives each day a list of births reported by midwives to the department from her district on the preceding day. The mothers of these newly-born children are visited, and the houses in which they live are canvassed for the purpose of visiting the mother of each baby less than one year of age that may be found in such houses. After these visits are made the nurse spends the remainder of her day's work in visiting systematically each tenement in her district, and calling on the mothers of all children less than one year of age.

In cases attended by private physicians, literature on the care of babies may be left, but no further instructions are given.

Where a midwife has been in attendance at birth, inquiry is made as to the condition of the mother and child at the time of birth and during the puerperium. If any abnormality is found to have existed, full data in relation thereto, is sent to headquarters.

In 1909, 18,000 visits and in 1910, 30,000 visits were made to mothers who were attended in childbirth by midwives. Visits to these cases are made once only, but to be most effective, mothers should be seen once a month, or several times to see that proper hygienic methods are being observed, and to impress upon the mother the importance of conserving the health of the child.

The following table gives the New York City births for 1907, 1908 and 1909:

	Total Births.	Attended by Physicians.	Attended by Midwives.
1907	120,720	68,168	52,536
1908	126,862	71,210	55,652
1909	122,975	73,359	49,616

It will be seen that over 40 per cent. of the total number of annual births are attended by midwives. In only a very few of these families are any instructions given to the mothers as to the feeding and care of their babies. The necessity for this knowledge is very great, but the staff of the Health Department must be increased in order to completely cover this field.

If in her district, a nurse finds a foundling baby, a report is made giving facts such as the name of permit holder, general condition of premises as to cleanliness, ventilation and overcrowding, general condition of child as to physical condition, cleanliness and care.

Instructions are given to mothers of babies under two years of age in regard to the following:

(*a*) As to general cleanliness, ventilation and hygiene.

(*b*) *Feeding.*—Breast feeding always advised and urged, its necessity being carefully explained. If bottle feeding is necessary, instructions given as to the proper care of the milk, bottles and nipples.

Tickets for milk from the depots conducted by Nathan Straus, by the Association for Improving the Condition of the Poor, Diet Kitchen Associations, Children's Aid Societies, or other agencies are given if family cannot afford to buy milk.

Directions for the home modification of milk are given when indicated, using the formula published on the circulars issued by the department.

(*c*) Directions as to clothing, bathing and fresh air.

(*d*) Instructions as to early treatment of gastro-intestinal disorders.

When a baby is found ill with any gastro-intestinal affection and the family unable to employ a private physician or the child is not being taken to a hospital or dispensary, the nurse telephones to headquarters and an inspector is sent to attend the case.

Cases of illness or destitution whenever encountered, where the family are unable to employ a private physician are referred to the nearest relief agency. Nurses are expected to be familiar with the location and nature of all relief agencies and dispensaries in the vicinity of their districts.

Revisits are made until it is evident that the mother understands and follows the instructions given.

Printed matter on the care of babies is left at the homes.

The Work of the Medical Inspectors.

Preliminary to their "summer corps" work, the medical inspectors of this division about 124 in number, during the months of May and June of this and last year, gave practical lectures in their schools to girls twelve years of age and over, upon the elementary principles of baby care, including the methods of feeding, clothing, bathing the baby, value of fresh air, etc. Over 80,000 girls attended these lectures.

In those schools, in appropriate districts, where there were older girls, these lectures were followed by the organization of "Little Mothers' Leagues," the object of which is instruction in the care of babies, and a propaganda for proper feeding and hygiene in infants. These leagues are regularly organized, officers elected, and weekly meetings held under the supervision of the medical inspector and the nurse of the school, either in some class room or playground. Some of the practical demonstrations given were as follows:

(*a*) *Nursing Bottles and Nipples.*—Showing proper kinds and how to properly wash and take care of them.

(*b*) How to care for milk, prepare milk and barley water and albumin water.

(*c*) *Proper Clothing.*—Demonstrated in many leagues with babies or with dolls.

(*d*) *Bathing.*—Demonstrated with babies or with dolls.

(*e*) Fresh air and sunshine.

Badges were given to those members who attended a specified number of meetings, and who wrote a composition on the topics discussed. The girls were urged to act as little missionaries in spreading the knowledge gained at these leagues to others in their neighborhoods.

There were over 22,000 members in these leagues throughout the city, and the meetings started in June, were well attended up to the latter part of August.

The importance of this method of disseminating knowledge on the care of babies cannot be overestimated. Already inquiries from other cities are coming to the department regarding these leagues, with a view of establishing them under their own jurisdiction.

During the months of July, August and the first half of September, a medical inspector and a nurse are assigned to each of the various "lecture centers" throughout the city, where the inspector delivers each week short practical talks to mothers and older girls on the care and feeding of babies. The nurse gives appropriate demonstrations in connection with these talks. In Manhattan these centers were located for the most part at the recreation centers. In Brooklyn they were in various schools throughout the borough and at the milk stations.

Milk stations were distributed as follows: Manhattan—under Diet Kitchen Association, 7; Independent, 3—10; Brooklyn—under Children's Aid Society, 16; Bronx—under Diet Kitchen Association, 1; Queens and Richmond, 0.

An arrangement was made whereby the various organizations which had charge of the milk stations furnished in addition to the milk, all the necessary supplies for demonstrations to mothers and treatment of sick babies, while the Health Department gave the services of the medical inspectors and the nurses.

All mothers coming for milk were given practical talks either in groups or as individuals, on the feeding and care of babies by the medical inspector with demonstrations by the nurse when circumstances warranted. The pasteurized-modified milk was made up from four different formulas and dispensed in three and six ounce bottles. The formula indicated on a ticket signed by a private physician was always given, and continued unless a change was requested by him. If a mother ceased to continue under the direction of the private physician, or if a mother came to the station with no ticket, then the formula selected by the medical inspector was

given. When in the judgment of the inspector, some different preparation was advisable, such as milk and barley water or albumin water, the nurse would go to the home and show how to prepare it.

The work of the Health Department is primarily preventive in character, yet there were many cases which came to these milk stations where through circumstances it was necessary to add corrective measures. To the mother of a sick child under the care of a private physician or a dispensary, only hygienic instructions were given, and each milk station was expected to know the nearest dispensaries and other relief agencies to which appropriate cases could be referred. Where treatment by the medical inspector was necessary, he was prepared to give medicine, or the nurse to give saline irrigations under the direction of the inspector.

An inspector was present every day at each recreation pier during July, August and September, where sick babies not attended by private physicians or dispensaries were treated, and when necessary treatment was continued at the home by the inspector of the district. At the piers, brief talks, general advice and literature were given to the mothers and guardians of children.

Cases of gastro-intestinal affections in children under two years when not attended by a private physician were attended by inspectors upon the request of parents. These sick calls were sent out from headquarters to the inspector of the district. When necessary the nurse assigned to the district was called upon to assist in the treatment of these cases.

Inspectors were detailed to examine for the presence of a contagious disease, each child desiring to be admitted to a summer home, vacation home, outing, boat trip, etc.

In special cases death from diarrheal diseases were investigated by inspectors detailed for this purpose. All such deaths occurring last August, were specially investigated, and information obtained as to pre-natal, natal and post-natal conditions. Tabulations are not yet sufficiently complete to give a report of this investigation.

Prevention is the key note of the Division of Child Hygiene. *Educative Work* is its cardinal principle, and though slow and almost discouraging at times, its final result will be a widespread knowledge which will eventuate in a marked reduction of illness and death.

Table statistics on infant mortality are herewith presented, explanatory notes and comments preceding each table, and in conclusion a brief summary of some of the factors affecting morbidity and mortality from diarrheal diseases is given.

Table I.

This shows the death rates for several years, for all deaths from all causes in the entire city. The rate for 1910 is estimated on the basis of deaths that have occurred so far this year:

Average Rates Per 1,000.

1910.	1909.	1908.	1907.	1906.	1905.	1904.	1903.
*16.20	16.00	16.35	18.36	18.28	18.30	20.01	17.95

*Estimated.

Table II.

Gives the decennial rates for all deaths from all causes, occurring in Manhattan, Bronx and Brooklyn:

1868-1877 = 27.17, average rates per 1,000.
1878-1887 = 25.27 " "
1888-1897 = 23.61 " "
1898-1907 = 19.23 " "

Table III

Here is shown the mortality rate for children under 5 years of age from all causes. The steady decline in the rate may be noted:

1878-1887	97.8%	Decennial Rate
1888-1897	86.2%	" "
1898-1907	57.9%	" "
1908	47.6%	Annual Rate
1909	46.4%	" "

Table IV

Is presented to show the proportion of deaths in children under one year according to the various classified causes:

	1908. Per Cent.	1909. Per Cent.
All causes	100.0	100.0
Diarrheal diseases	31.5	26.6
Congenital diseases	27.9	27.4
Acute respiratory diseases	19.3	22.6
Contagious diseases	4.3	4.5
Marasmus	3.7	3.1
Convulsions	2.5	2.4
Tuberculosis	1.8	2.0
Meningitis (simple)	1.1	1.2
Syphilis	1.0	1.4
Violence	0.9	0.7

Table V.

The following shows the population, deaths and death rates of children under 2 years of age, from all causes, and from diarrheal diseases, since the organization of the Greater City:

	Population Under 2 Years.	Deaths, All Causes, Under 2 Years.	Rates per 1,000 at 2 Years.	Deaths, Diarrhea, Under 2 Years.	Rates per 1,000 Under 2 Years.
1898	156,421	21,678	138.6	6,459	41.2
1899	160,451	19,875	123.9	5,236	32.6
1900	164,720	21,526	130.7	5,846	35.5
1901	169,884	20,156	118.7	5,796	34.1
1902	175,226	20,280	115.7	4,938	28.2
1903	180,752	18,418	101.9	4,440	24.3
1904	186,468	21,146	113.4	5,647	30.3
1905	192,384	20,816	108.2	5,877	30.5
1906	198,506	21,901	110.3	5,783	29.1
1907	204,843	21,930	107.1	6,346	31.0
1908	211,404	20,462	96.8	5,977	28.3
1909	221,413	20,716	92.4	6,126	23.2
1910	229,596	....	....	....	*26.4

* The 1910 rate of 26.4 is estimated upon the increase for the summer months of 1910 over 1909.

	Per Cent.
Average Rate, 1898-1907	31.7
Rate, 1908	28.3
Rate, 1909	23.2
Estimated Rate, 1910	26.4

TABLE VI.

Here are shown the deaths and rates years for the summer months of 1908, 1909 and from diarrheal diseases in children under 2 1910:

	Entire City.	Manhattan.	Br'klyn.	Bronx.	Queens.	Richmond.
May 30, 1908 to September 24, 1908	4,180	2,020	1,526	237	258	139
May 29, 1909, to September 25, 1909	3,383	1,595	1,253	204	246	85
May 28, 1910, to September 24, 1910	3,858	1,931	1,378	206	251	92
Per Cent. Increase of 1910 over 1909	14%	21.1%	9.9%	0.9%	2%	8.2%

TABLE VII.

The deaths in each borough divided by its population give the following results:

	Population.	Deaths from May 22 to Sept. 24.	Per Cent.
Manhattan	2,331,542	1,931	.083
Brooklyn	1,634,351	1,378	.084
Bronx	430,980	206	.048
Queens	284,041	251	.088
Richmond	85,969	92	.107

A more accurate comparison could be made if the population of children under 2 years of age in each borough was known, but these census figures are not obtainable at present.

It may be noted that the Manhattan and Brooklyn ratios are about the same. The borough of Bronx for several years past has had a remarkably low proportion, and the above figures show a continuation of that record. The comparatively high rate in Richmond is due, to a great degree, to deaths in institutions for sick babies, located in that borough.

TABLE VIII.

Is presented to show the deaths by weeks with percentages derived therefrom. Comparing the borough of Manhattan with the borough of Brooklyn, it will be seen that in the former the greatest number of deaths occurred in August, while in the latter the heaviest mortality was in July. On July 30th, Manhattan had had 48+ per cent. of its deaths, while Brooklyn's total was 57+ per cent., yet at the end of August the figures for the two boroughs were about the same. This year repeats the experience of several years past, in that the highest mortality rate occurs earlier in the summer in Brooklyn than in Manhattan. Why this is so is difficult to explain:

ENTIRE CITY.

Week Ending 1910.	Deaths.	Per Cent.	Accumulative Per Cent.	Monthly Per Cent.
May 28	56	1.45	1.45	2.93
June 4	57	1.48	2.93	
June 11	47	1.22	4.15	12.05
June 18	105	2.72	6.87	
June 25	134	3.47	10.34	
July 2	179	4.64	14.98	
July 9	265	6.87	21.85	37.58
July 16	424	10.99	32.84	
July 23	377	9.77	42.61	
July 30	384	9.95	52.56	
Aug. 6	295	7.65	60.21	32.87
Aug. 13	270	7.00	67.21	
Aug. 20	237	6.14	73.35	
Aug. 27	246	6.38	79.73	
Sept. 3	220	5.70	85.43	
Sept. 10	214	5.55	90.98	14.57
Sept. 17	183	4.74	95.72	
Sept. 24	165	4.28	100.00	
	3,858			

MANHATTAN.

Week Ending 1910.	Deaths.	Per Cent.	Accumulative Per Cent.	Monthly Per Cent.
May 28	29	1.50	1.50	2.79
June 4	25	1.29	2.79	
June 11	21	1.09	3.88	11.14
June 18	57	2.95	6.83	
June 25	65	3.37	10.20	
July 2	72	3.73	13.93	
July 9	102	5.28	19.21	34.80
July 16	181	9.37	28.58	
July 23	190	9.84	38.42	
July 30	199	10.31	48.73	
Aug. 6	162	8.39	57.12	35.84
Aug. 13	148	7.66	64.78	
Aug. 20	114	5.91	70.69	
Aug. 27	142	7.35	78.04	
Sept. 3	126	6.53	84.57	
Sept. 10	122	6.31	90.88	15.43
Sept. 17	93	4.82	95.70	
Sept. 24	83	4.30	100.00	
	1,931			

BROOKLYN.

Week Ending 1910.	Deaths.	Per Cent.	Accumulative Per Cent.	Monthly Per Cent.
May 28	23	1.67	1.67	3.48
June 4	25	1.81	3.48	
June 11	19	1.38	4.86	14.01
June 18	38	2.76	7.62	
June 25	60	4.35	11.97	
July 2	76	5.52	17.49	
July 9	127	9.21	26.70	40.13
July 16	167	12.12	38.82	
July 23	114	8.27	47.09	
July 30	145	10.53	57.62	
Aug. 6	81	5.88	63.50	28.05
Aug. 13	90	6.53	70.03	
Aug. 20	86	6.24	76.27	
Aug. 27	69	5.01	81.28	
Sept. 3	60	4.39	85.67	
Sept. 10	63	4.53	90.20	14.33
Sept. 17	73	5.34	95.54	
Sept. 24	62	4.46	100.00	
	1,378			

TABLE IX.

As a general proposition it may be stated that factors which influence the mortality rate from diarrheal diseases, are about the same in Manhattan and Brooklyn. This table is an analysis of the Brooklyn death by wards, and was of particular interest to the members of the Brooklyn Pediatric Society to whom it was presented.

The order of the wards is given according to the highest percentage of total deaths. But the wards which lead all others in this respect, may do so by virtue of the very large population they contain; this may be noted particularly in the 26th and the 8th wards, where as a matter of fact the ratio between the ward population and

the death rate is fairly equal. The true index to mortality factors is shown in Table XI where the ratio of deaths to population is given.

The 26th ward covers a very large area, most of which, however, is still undeveloped, so that the population, which is the largest of any ward, is concentrated in a very small section of it. Therefore the table which gives to this ward 30 people to the acre, does not reveal the true density. The inhabitants are principally Hebrews of recent immigration type living in very large tenements, which, however, are of modern construction, as this section, which is known as Brownsville, has been developed within the past few years.

It may be noted that the 26th, 14th and 17th wards which have 14½ per cent. of the borough's population, give 24¾ per cent. of the total deaths.

Brooklyn deaths from diarrheal diseases under 2 years of age from May 28, to October 1, 1910:

Ward.	Population.	Per Cent. of Bor. Pop.	Acreage of Ward.	People to Acre.	No. of Deaths.	Per Cent. of Total Deaths.
26th	111,000	7.73	3,590	30	138	9.73
14th	33,000	2.20	282	114	123	8.67
17th	69,000	4.60	823	83	90	6.35
8th	77,000	5.13	1,843	42	79	5.57
27th	51,000	3.40	400	127	63	4.44
30th	59,000	3.93	5,404	11	60	4.23
6th	48,000	3.20	302	160	58	4.02
28th	98,000	6.53	884	110	54	3.82
18th	32,000	2.14	873	36	53	3.74
15th	33,000	2.20	244	132	52	3.66
16th	59,000	3.93	244	236	52	3.66
22d	76,000	5.06	1,361	56	49	3.46
21st	70,000	4.66	483	144	45	3.17
10th	44,000	2.93	318	138	44	3.10
12th	34,000	2.66	663	50	41	2.89
29th	57,000	3.80	3,800	15	40	2.82
5th	20,000	1.33	119	165	38	2.68
24th	51,000	3.40	1,200	42	36	2.54
25th	58,000	3.86	567	102	36	2.54
31st	27,000	1.80	6,312	4	36	2.54
7th	46,000	3.06	458	100	35	2.47
9th	50,000	3.33	623	80	31	2.19
11th	24,000	1.60	252	96	31	2.19
19th	40,000	2.66	413	96	21	1.48
13th	26,000	1.73	230	113	19	1.34
32d	17,000	1.13	5,479	3	18	1.27
4th	13,000	.86	111	119	16	1.13
20th	30,000	2.00	461	65	15	1.06
23d	68,000	4.53	736	90	15	1.06
3d	20,000	1.33	161	125	13	.92
2d	9,000	.60	97	90	11	.78
1st	24,000	1.60	233	104	6	.42

TABLE X.

A few of the wards are here given in the order of density of population. Where the percentage of deaths exceeds the percentage of population, it is noted by a plus sign, where the opposite condition obtains, a minus sign is used. The braces are used in order to compare wards of fairly equal density.

This table shows that congestion of population, per se, bears no relation to the death rates from diarrheal diseases. The 16th ward which has a density of population far in excess of any other ward, has a minus ratio. The inhabitants are practically all the poorer class of Hebrews:

Ward.	Population Density.	Per Cent. of Population.	Per Cent. of Deaths.
16th	236	3.93	3.66—
5th	165	1.33	2.68 ++
6th	160	3.20	4.02 +
21st	144	4.66	3.17 —
10th	138	2.93	3.10 0
15th	132	2.20	3.66 +
27th	127	3.40	4.44 +
3d	125	1.33	.94 —
14th	114	2.20	8.67 ++
13th	113	1.73	1.34 —
4th	119	.86	1.13 +
28th	110	6.53	3.82 —
11th	96	1.60	2.19 +
23d	90	4.53	1.06 —
18th	36	2.14	3.74 ++
8th	42	5.13	5.57 +

TABLE XI.

This is arranged according to highest rate of mortality in proportion to the population. A more accurate estimate could have been made had the ward population of children been known, but even as it is, the table shows those wards in the lead, which, all mortality factors being considered, would be expected at the top of the list. Density of population is given for purpose of comparison, and where possible, the predominating types of people are noted.

Wards 30 and 31 should not be included in this table for fair comparison, as the relatively high rates are due to deaths occurring in institutions and families who had taken their sick babies to the seashore which borders these wards. The general character of the population of these wards is excellent, and the dwellings for the most part are of the detached type.

Wards 16, 21, 13 and 28 are included to show the fairly low mortality rates:

Ward.	Ratio of Population to Mortality.	Population Density.	Predominating Types of People.
14th.....	1 : 3.94	114	Poles; poor Irish; Italian; poor Native.
5th.....	1 : 2.01	165	Mixed foreign and poor Native.
18th.....	1 : 1.75	36	Italian; poor Native.
15th.....	1 : 1.66	132	Italian; poor Native.
31st.....	1 : 1.45	4	
30th.....	1 : 1.41	11	
17th.....	1 : 1.38	83	Poles; poor Irish; poor Native.
11th.....	1 : 1.38	96	Italian.
4th.....	1 : 1.31	119	
27th.....	1 : 1.30	127	
2d.....	1 : 1.30	90	
26th.....	1 : 1.26	..	Hebrew.
6th.....	1 : 1.23	160	
16th.....	1 : .93	236	Hebrew.
21st.....	1 : .68	100	Hebrew.
13th.....	1 : .77	113	Hebrew.
28th.....	1 : .59	110	German.

No one factor can be considered *the* cause of infant morbidity and mortality, but calculations

must be based on various causes grouped together to arrive at a fair conclusion. The following are some of the factors which affect illness and death from diarrheal diseases:

1. *Breast Feeding vs. Artificial Feeding.*—It will be granted that one of the most important factors, in reducing the death rate, is to urge the importance of breast feeding. The very low proportion of deaths among breast-fed babies is too well known to discuss further.

2. *Type of Infection.*—This varies from year to year, being mild, moderate or severe at different times.

3. *Congestion of Population.*—Table X shows that too much importance must not be given to this cause in itself. Where the death rate is high, however, in the general complex of causes, a fairly high population—density will be noted.

4. *Sanitation.*—Under this heading come old, unsanitary buildings, improper light and ventilation, unprotected collections of garbage and filth, flies that flourish under such conditions, impure milk, impure water, etc.

5. *Inherited Factors.*—By which is meant the influence upon the offspring of such conditions in the parents as alcoholism, syphilis or poor physical stamina from other causes.

6. *Ignorance.*

7. *Indifference, Shiftlessness and Crime.*—These may be considered together. Ignorance dispelled by knowledge gained and practically applied is, next to breast feeding, the most important factor in reducing the deaths among infants and too much stress cannot be laid upon it. The eagerness of the Hebrew mothers to learn how to properly care for their children, undoubtedly explains, to a great degree, the remarkably low death rates in the wards inhabited by them. The experience of the Health Department shows that the Hebrew mothers constituted a very large proportion of those attending lecture centers and milk stations, and the Little Mothers Leagues receive their very best support from Hebrew girls.

On the other hand, where indifference is manifested and shiftlessness is most marked, a large proportion of illness and death is noted. In the wards giving the hightest mortality ratios as shown in Table XI, these factors had a most decided influence.

8. *Poverty.*—Insufficient nourishment of the mother, and neglect of her maternal duties because she must work to support the family, are only two of the many phases of this economic factor. In the middle of last summer, when the Poles employed in the sugar refineries located in the 14th ward were on strike, the death rate was extremely high, the population—mortality ratio being 1 to 6, and probably the unusual poverty prevailing at that time helped to do this.

9. *Weather Conditions.*—Variations in the heat and humidity averages from year to year do not seem to bear any direct relation to the variations in annual death rates.

But it has been observed that when a very hot month occurs early in the summer, the death rate is higher in the first part of the season, than it is in August. This is largely due to the inability of the weaklings to survive the extreme heat, and they succumb early. When the heat of July and August is of moderate severity but fairly uniform, the weaker ones live through the earlier month, but die in August, giving a higher death rate at that time.

10. *Nationalities.*—The death rate among the poor native stock is very high, due to a great extent to the inability or refusal to nurse their children, and to some degree to ignorance and indifference.

The poor Irish class gives a heavy mortality, due largely to ignorance, indifference and shiftlessness.

While the Italians, as a rule, nurse their children, the vitality of their offspring is weak, and they die in large numbers.

The high rate amongst the Poles is due to many of the factors mentioned as causes.

Hebrews show a comparatively low mortality rate. This as stated before, is because their children are practically all breast-fed, and they are anxious to learn how to properly care for their little ones.

With the foregoing factors in mind, the high mortality rates noted in Table XI are readily explained.

Wards 14, 5, 18, 15 and 17 contain 12½ per cent. of the borough's population, and furnish over 25 per cent. of the total deaths for the summer. On August 1st, one-third of all the fatalities up to that time came from these wards, but a strenuous campaign by a larger force of nurses sent to these districts, resulted in a reduction of the death rate at the end of the season. These are the wards where a combination of mortality factors such as poor sanitation, inherited factors, ignorance, indifference, shiftlessness and poverty, come into full play.

Wards 26, 16, 21 and 13 which are principally Hebrew show, with one exception, a death rate lower than the proportion of population. The 16th ward is very remarkable, in that, despite the greatest density of population of any ward, many old buildings, sanitation none too good and a great deal of poverty, the mortality ratio is but 1 to .93. This can only be explained on the basis of the Hebrew characteristics above mentioned.

It would seem, therefore, that even where many of the conditions are present which directly or indirectly favor the production of illness and death from diarrheal diseases among infants, if the mothers know how to properly feed and care for their babies and apply this knowledge intelligently, the death rate may be kept down to a very low point. This is the great incentive for educational work along these lines.

VON MIKULICZ DISEASE.

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IN order that a disease of rare occurrence and doubtful origin may be recognized and understood, it is essential that every such case should be studied minutely, both clinically and pathologically, and, then be brought before the medical profession.

It is now twenty-two years since Von Mikulicz first called attention to the condition that now bears his name. On January 23, 1888, before the Verein für wissenschaftliche Heilkunde, at Königsberg, Von Mikulicz presented a patient with a characteristic and symmetrical enlargement of the lachrymal and salivary glands, chronic in character, non-painful, and not associated with any demonstrable systemic disease, which he could not classify under any of the diseases heretofore described. It was not until 1894 that Von Mikulicz first described this as a distinct and typical well defined heretofore undescribed disease.*

The following case is an example of his syndrome:

History of Case.

General.—Jennie B——, white, 14 years of age, school girl, was admitted to the Jewish Hospital, of Brooklyn, on September 21, 1907.

Family History.—Mother is living and well; was operated upon twice for glands of neck. Father died from gangrene of feet (syphilis?). One brother was in an orphan asylum two years ago, suffering from sores on his scalp. He has sore eyes, and now has frequently sores breaking out all over his body. Has a sister who is well. There is no history of tuberculosis or neoplasm.

Habits.—Have always been good.

Previous History.—Had measles, chicken pox and whooping cough in childhood; about three years ago had sore eyes; was treated with blue stone and white drops. Was in an orphan asylum from 1903 to 1905.

Present Illness.—Dates back three years. In 1905 the patient began to feel pain over her heart, and in both lower limbs. Had shortness of breath and felt feverish. The doctor who was then consulted said that she had rheumatism of her heart. About three weeks later had abscesses breaking out over both lower extremities, buttocks and shoulders. One would heal and another one would break out. She was entirely cured of it in two months, and to-day white scars mark the location of these abscesses. Was never entirely free from pains and aches all over her body.

In May, 1905, she noticed for the first time a symmetrical swelling appear spontaneously, a little below and in front of both ears. During the next two months the swellings increased considerably in size, and the pain was proportionate, but was never a marked symptom. The swellings then began to subside gradually and after reaching a certain size, remained stationary for a time. For the next two years the swellings fluctuated, increasing to a considerable extent, and then diminishing, but never disappearing entirely. In September, 1907, the swelling became larger than they had ever been before, while the pain was but slightly increased. They have remained stationary since. The right side was always a little larger than the left. With the exception of the slight pain over the region of these swellings which comes on only when the latter increases in size, and the xerstoma—or the dryness of the mouth, which is more or less constant, and occasional precordial distress—with these exceptions the patient is free from all other symptoms.

Physical Examination.

General.—Patient is well built and nourished; mucous membranes are not pale; skin of abdomen, back and legs, shows round white scars, which mark the location of the above mentioned abscesses, and which are not pigmented; skin is also slightly covered by an acne which exists in its various stages. The eyes are prominent, but the lachrymal glands are not enlarged. Extremities feel cold. There is no tenderness of tibia.

Swellings.—On each cheek in the region of the parotid gland distinct swellings are seen. The right, the larger of the two, consists chiefly of two parts, an anterior and a posterior, each about the size of a pigeon's egg. The anterior is located in front of the ear, the posterior behind the angle of the lower jaw. On the left side the enlargement is located below and in front of the lobe of the ear, and is also about the size of a pigeon's egg. These swellings are round, smooth, sharply defined and confined exclusively to the region of the parotid gland. The surrounding tissue is not infiltrated, and the neighboring glands are not involved. The skin over the swellings shows no sign of inflammation and is freely movable over it.†

Throat, Mouth and Nose.—Small, gray, elevated spot in pharynx. Redness and dryness of the throat. Tongue clear but dry. Tonsils slightly enlarged and reddened. There is no nasal obstruction.

Heart.—A blowing systolic murmur at the apex, which is transmitted a little to the left. No hypertrophy is present.

Lungs.—Negative.

Liver and Spleen.—Not enlarged.

Abdomen.—No resistance can be felt, and there are no masses present.

Glands.—Posterior cervical, axillary and inguinal glands are small and barely palpable. The temperature, pulse and respiration have always been practically normal.

* See Figs. 1, 2, 3, page 71.

† See Figs. 4, 5, page 71.

Clinical Notes.

October 23, 1907.—Weight, 103 pounds.

November 1, 1907.—Rash all over body. Patient has been getting potassium iodide up to 47 grains—nauseated, dizziness, headache and vomited. Eruption was thought to be due to potassium iodide.

November 10, 1907.—Weight, 99 pounds.

November 28, 1907.—Patient is menstruating for first time. Has pains over stomach and lower extremities and is nauseated.

December 27, 1907.—Tuberculin in eye, no reaction.

December 29, 1907.—Tuberculin by hypodermic injection, no reaction.

Urine Examinations.

Repeated examinations yielded but negative results.

Examination of Saliva.

The saliva has been examined on two occasions as regards to cytology, bacteriology and chemistry. Results were negative, *i. e.*, not differing from normal. An attempt to catheterize Stenson's duct with a view of examining the unmixed saliva of the parotid gland, proved unsuccessful.

Treatment Employed.

1. X-ray treatment, twice weekly.
2. Inunctions of oleate of mercury.
3. Potassium iodide 10 grains daily and increased 1 grain per day until 47 grains per day were taken.
4. Mercurial plasters to cheeks.
5. Intramuscular injections of salicylate of mercury.
6. Liquor potassii arsenatis 10m. t. i. d. had to stop on account of nausea and vomiting.
7. Tr. nucis vomica.

On March 28, 1910, having obtained a strongly positive "Wassermann Reaction," the antisyphilitic treatment was pushed to the point of toleration, but no appreciable impression could be made upon the lesion.

After trying all the above named remedies for over two years with negative results, operative interference was decided upon, and on July 21, 1910, Dr. H. B. Delatour incised on each side over the region of the parotid gland and removed the tumors chiefly by enucleation. The patient has made an uneventful recovery and is now free from all subjective and objective symptoms and enjoys perfect health.

LABORATORY FINDINGS.

Blood Examinations.

	Oct. 28, '07.	Oct. 30, '07.	Nov. 20, '07.	Jan. 23, '09.	Oct. 20, '10.
Erythrocytes	5,100,000	5,000,000	5,000,000	5,500,000	5,000,000
Hemoglobin	88%	90%	92%	95%	98%
Leucocytes	10,200	9,000	9,600	8,500	8,500
Polymorphonuclears	71%		59.0%	75%	74%
Eosinophiles	0%		0.5%	3%	3%
Large Mononuclears and Transitionals.	1%		5.0%	1%	½%
Mast Cells	0%		0.0%	1%	½%
Small Lymphocytes	28%		35.5%	20%	22%

Pathology of Glands.

Macroscopical.—Two glands from left side beneath lobule of ear were removed. One of the glands is the size of a walnut, the other the size of a hazel nut. They show no calcification or necrosis. The larger one is grayish white in color, moderately firm in consistency, and on scraping the surface a few granules are obtained. The central portion is lighter in color—is light grayish white and very sharply defined from the remaining portion of the gland. There is no degeneration or necrosis. On the right side the condition was similar except that caseation, degeneration and necrosis were also present to a limited extent.

Microscopical.

Interstitial Portion.—The interstitial portion of the gland shows a marked proliferation of connective tissue cells and round cell infiltration. The round cells resemble and seem to be identical with the ordinary lymphocytes. This cellular proliferation and infiltration is especially conspicuous around the ducts of the gland and to a lesser degree around and between the secreting tubules. Numerous strands of connective tissue cells seem to spring from the basement membrane lining the ducts and by active proliferation extend into the interstices of the acini.

The parenchyma shows different pictures in the different portions of the gland. Here and there a spot can be found which shows almost normal gland structure. These are few and far between. But by far the major portion of the gland shows involvement of the parenchyma to a greater or lesser extent. In some the cells lining the acini show merely a beginning, granular, and fatty degeneration. In other areas where the interstitial infiltration is greater, the cells are small, indistinct and atrophied, and the outlines of the tubules barely perceptible. The circular arrangement of the dark straining nuclei being the only vestige left to indicate to the mind the previous existence of the secreting tubules. And then again in other places the interstitial cellular infiltration seems to have completely crowded out of existence the secreting tubules, the latter being entirely replaced by a mass of fibrous tissue.

The capillaries and blood vessels are increased in number, the latter are thickened and show amyloid and hyaline degeneration.

There are areas of degeneration which show

giant cells, epithelial cells and lymphocytes. Degeneration, neurosis and calcification are also present; the pathological picture of tuberculosis. Repeated examinations from both the cheesy material and the sections of tissue, failed to reveal any tubercle bacilli.*

Consideration of Von Mikulicz Disease as Regards to Location of Lesion.

In Mikulicz's historical case all the salivary and both lachrymal glands were involved. In our case both parotids only were affected. Involvement of the parotids alone, which was unknown to Mikulicz has been reported by Lafolly (5 cases), Battle, Kummel (case), Quincke, Von Reuss, Minelli, and Apert. Mikulicz points out that involvement of the lachrymal glands alone was common and that such cases belong to his syndrome, for they are chronic symmetrical tumors of a benign character. Such cases were reported by Power, Hahule (2 cases), Panse (case 1), Terrien, Stower, Rollet (2 cases), and Shoemaker. Also involvement of the submaxillaries alone has been reported by Kummel (case 6), while that of the sublingual alone has occurred but once (Reinbach). Involvement of one of the pair of glands has been reported in the parotid by Kuttner (case 1 and 11) and in the lachrymal by Berlin (2 cases), Panse (case 11), and Coppez. Consequently one must admit that latent forms may occur in this disease, just as in tetany, myxædema, goitre, etc., in which all the clinical phenomena are not present. It is quite possible that these atypical cases might have developed lymphomata of the unaffected glands if they had been kept under observation long enough, without instituting treatment. Therefore this would seem to limit the characteristics of this symptom complex, to a chronic, indolent, symmetrical enlargement of one or more glands of the head and not associated with any systemic disease.

Pathology.—The pathology of this disease is obscure. There are no two cases exactly similar in every detail. Broadly speaking they can be divided into two different pictures, that of lymphadenoid hyperplasia and that of chronic inflammation.

The majority of writers have found a diffuse round cell or lymphocytic infiltration, and isolated collections of lymph nodules embedded in the parotid gland. These nodules are circumscribed and resemble lymph follicles and are irregularly distributed in the tumor. There is an abundant vascular supply, whose walls show a distinct thickening and sometimes hyaline and amyloid degeneration (Kerschbaumer & Reymond). The capillaries may show a proliferation of the interstitial and connective tissue with resulting sclerosis (Zinn, Kerschbaumer and Swegireff). The gland proper plays a passive rôle undergoing secondary atrophy and degeneration as a result of compression, until it may completely disappear (Mikulicz, Minelli, Fuhs, Tietze, Becker, Kummel, Meller, and Swegireff). These authors believe that the process originates in the connective tissue and that the gland element plays a passive rôle. Hirsch, Hæckel, Kuttner and a few others believe that the process originates in the epithelium of the gland proper, which undergoing primary degeneration as a result of the action of some toxic agent, which perhaps reaches the epithelium through the duct of the gland resulting into a secondary proliferation of the connective tissue. Hirsch has observed independent degeneration of the gland parenchyma in all stages of the disease, and affecting even the lobules which were not related to the round cell infiltration. Hæckel saw in some cases a transition of masses of round cells into connective tissue cells, with long nuclei, a true fibrous connective tissue. A beginning degeneration of the gland epithelium occurred where the gland seemed otherwise normal and free from round cell infiltration and new connective tissue.

A certain number of so-called "leukæmic cases" have been reported; here the usual pathologic anatomical picture is presented, namely a nodular or diffuse formation of atypical lymphoid tissue. Warthin claims that so far as the essential pathology is concerned no histological difference can be discovered between the two types (leukæmic and aleukæmic) and one may pass into the other.

Giant cells, eosinophiles and few epithelial cells have been found by Tietze, Kummel (case 25), Stower, Boas, Minelli, Napp, Kulbs and others.

General Consideration.—From a thorough review of the rather extensive literature on the subject, we find this disease occurs between the ages of four and seventy, and affects males and females about equally. The duration of the attack varies from two months to about ten years and upwards, thus emphasizing the chronicity and indolent character of this disease. There is either first a gradual symmetrical enlargement of the parotids, the submaxillary and sublingual glands may or may not share in the involvement. In some cases there is also enlargement of the secondary salivary glands of the hard palate, and under surface of the tip of the tongue (Blandin-Nuhn glands) and of the lateral aspect of the posterior portion of the tongue (Weber's glands). This gives rise to xerestoma, which interferes with mastication or deglutition depending upon the degree of involvement. Sooner or later there is involvement of the lachrymal glands giving rise to ptosis and exophthalmos, with hardly any mechanical interference with vision. Lachrymation usually in an early symptom. The process may be reversed involving first the lachrymal and then the salivary glands, or may involve one without involving the other, or involve but one gland. The tumors are firm, smooth, painless, or but slightly tender, and not

* See Figs. 6, 7, 8, page 73.

adherent to surrounding tissue. There is no enlargement of the lymph nodes. The spleen is not enlarged. Hypertrophied tonsils and adenoids infrequently occur (Ziegler). The examination of the blood is interesting. The blood picture as a rule remains normal in most of the cases. Yet there are quite a number of cases reported in which involvement of the hematopœtic system did occur, and which developed into typical leukæmia and pseudo-leukæmia (Marcuse, Osler, Cutler, Gallasch, Buck, Dunn, Kerschbaumer, Stock, Senator, etc.). As many of these cases were reported before systematic and careful blood counts were taken, while other cases were reported before the cases terminated favorably or otherwise, it is my opinion that the actual number of leukæmic and pseudo-leukæmic cases is even still greater. Of special interest in this connection is the fact that the tumors may temporarily or even permanently subside during the course of an acute infection, such as general peritonitis (Mikulicz), pneumonia (Kummel case 3), erysipelas (Quincke and Zirm), acute pleurisy with effusion (Osler), after an attack of cholera (Delens), etc. In leukæmia it is a well known fact that during any acute infection, there may be a diminution in the size of the lymph nodes and spleen, and a betterment of the blood picture. It differs, however, from leukæmia, pseudo-leukæmia and also from lymphosarcoma that after complete removal of the gland there is no tendency towards recurrence.

The course of the disease as aforesaid is exceedingly chronic, and quite often a complete cure may be obtained spontaneously or by therapeutic measures, especially arsenic, mercury, iodides and X-ray. Of itself the disease is not fatal, having no tendency to shorten life. Snell's case which died as a result of the tumor of the parotid, reads like the history of a lymphosarcoma.

Etiology and Pathogenesis.—There are different opinions as to how and what is the cause of this disease. Some believe that the disease is caused by (1) glandular irritation from some toxic agent in the blood or lymph stream, causing lymphatic hyperplasia. Others believe that it is of (2) idiopathic origin. Berlin, Arnold, Minelli, Tietze and others, compare the process to hypertrophy of the tonsils and adenoids. The hypertrophy taking place from preformed lymphatic tissue in the orbits, between the gland alveoli and capillaries of salivary and lachrymal glands. Wallenfang thinks that it is a pseudo-leukæmic condition. Minelli believes that it is a benign lymphomata of the salivary glands, which may become generalized just as is the case in Hodgkins disease.

Nearly all authorities are of the opinion, that the disease is caused by (3) an infection from buccal or conjunctival bacteria. Mikulicz and his followers believe that the condition is due to an infection or parasitic process in the widest sense of the term, though no specific bacteria have been demonstrated in these cases, the microscope usually revealed lymph cell infiltration of the interstitial tissue. Mikulicz believes that the infection arises from the conjunctiva, passing thence to the lachrymal gland and by the lachrymal duct to the buccal mucous membrane and the salivary glands, owing to the proximity of both in the nasopharynx. In many cases there was a pre-existing disease of the conjunctival mucous membrane, Becker, Mikulicz, Adler, Haltenhoff, and our own. Kummel considers that the first conjunctival and second salivary groups of cases depend upon the different entrance points. It has been stated that trachoma of the fornix has caused lachrymal adenitis (Baquis). By analogy it is thought that buccal bacteria might be transmitted through Stenos duct and thus infect the parotid (Hanan). Ziegler believes that the condition (4) is due to toxic fluids that are chemically irritating, which are probably absorbed from the accessory sinuses (chiefly the antrum) and transmitted through the lymphatic capillaries to these contiguous glands. He believes that respiratory obstruction not only hinders the evaporation and drainage of these sinus secretions, but also causes suboxidation and other disturbances of metabolism, and considers it a true etiological factor. Our case had no respiratory obstruction. Another cause recently suggested by Apert is (5) hypothyroidism. Apert's own case and another reported by DeJong and Joseph occurred in patients who suffered from hypothyroidism and infantilism.

What conclusions can we draw from our case as to the etiology, pathology, course and prognosis of this malady? Does the clinical history and the pathological findings of our case corroborate or disprove the above mentioned etiological factors. The duration of our case lasting for about five years emphasizes the chronicity of this condition. The pathological findings show the round cells and connective tissue cells most abundant around the ducts of the gland, and seem to spring from its basement membrane lining the duct. This is suggestive of some toxic agent which passes through the duct, and perhaps by irritation causes induration and proliferation of the round and connective tissue cells. Whether this toxic agent is afferent or efferent in nature is hard to say.

It is our opinion that lues, tuberculosis or both in their latent or active stages, play an important rôle in this condition, and that the variable pathological picture is directly dependent as to which one is present or predominates. In our case the hereditary luetic history, the strongly positive Wassermann reaction (the first one ever tried in this disease) and the thickened blood vessels and round cell infiltration are more than merely suggestive of a luetic basis to this

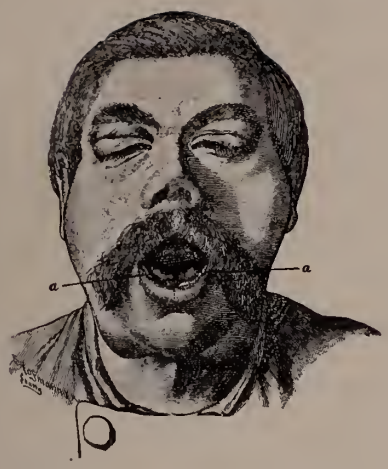

Fig. 1.—Symmetrical enlargement of the lacrymal, parotid and submaxillary glands. (Mikulicz.)

Fig. 2.—Enlarged glands of the palate. (Mikulicz.)

Fig. 3.—Downward displacement of pendulous lacrymal glands. (Mikulicz.)

Fig. 4.—Patient before treatment.

Fig. 5.—After treatment. (Cured.)

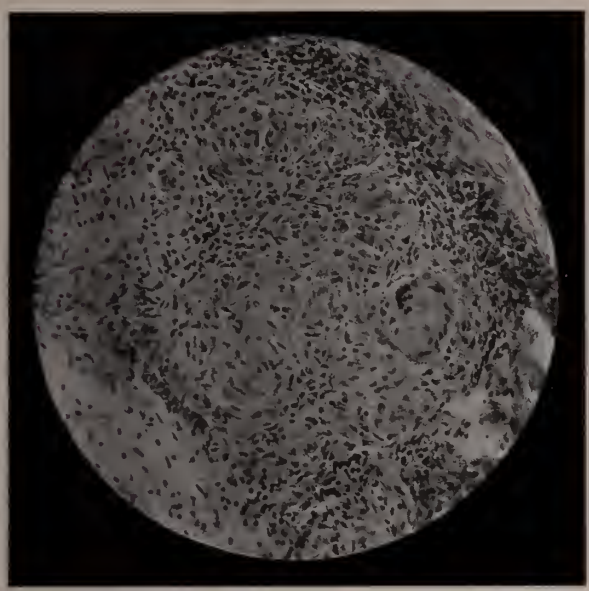

Fig. 6.

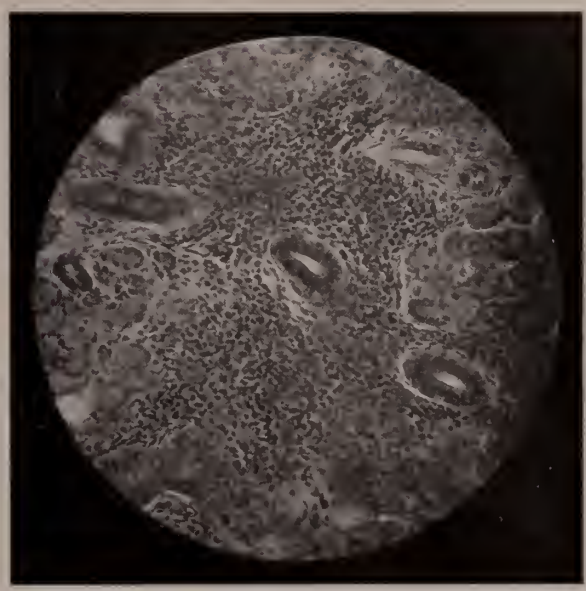

Fig. 7.

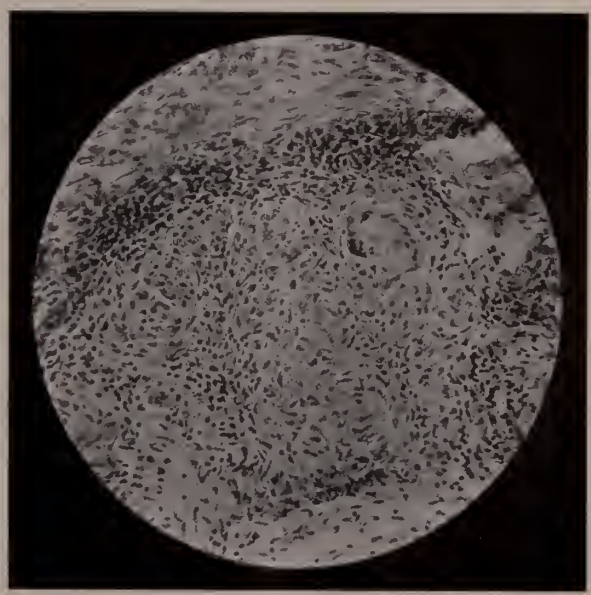

Fig. 8.

disease. In the literature we find that DeJong and Joseph speak of a coexisting irido-choroiditis in their case; Osler, of a specific rhinitis; Heller has good reason to suspect lues in his case of enlarged sublinguals, while Gutman, in 1907, has reported a typical case of Von Mikulicz's disease which developed three years after the primary chancre. The cases reported by Horner, Frost, Claus, Coller, Meller, Vidaur and De Lapersanne all have distinct ear marks of syphilis. Finally the therapeutic test for lues, mercury and potassium iodides, is the curative agent of most cases of this disease. Arsenic, the drug that has given the best results in this condition, has recently been shown by Ehrlich to be the curative factor of his marvelous remedy for syphilis, 606—which is a dimethyl-amido-arsenobenzol.

When we come to consider as to what rôle tuberculosis plays in this condition we find that a tuberculous history is given by a great number of these patients, that the pathology of this malady shows giant cells, epithelial and round cells to be exceedingly common. (In our case degeneration and necrosis being also present.) Meller considers that in some cases of Mikulicz's disease the chronic interstitial change is a modified tuberculous process which has resulted in the death of the cellular elements. This assertion is analagous to the view entertained by many of the German pathologists who regard Hodgkins disease as a modified tuberculous condition. In reference to this it is important to remember as we have stated above, that occasionally Von Mikulicz disease develops into true Hodgkins.

Very significant also is the fact that in all cases except our own, that have been reported in this country, have all occurred in the negro race. The prevalence of both tuberculosis and syphilis in the negro race is a matter of common knowledge.

In conclusion I wish to express my deep appreciation to Dr. J. Fuhs, who was the first one to recognize the condition, and for his valuable suggestions in the preparation of this article, and to Prof. Archibald Murray for the preparation of the microphotographs.

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SACRAL SUSPENSION OF THE UTERUS.*

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IN a paper read before the New York Obstetrical Society in May, 1903, and published in October, I called attention to the importance of the utero-sacral ligaments in uterine suspension.

In February, 1909, I reported the results of 100 operations for sacral suspension, covering my entire experience with the operation for a period of ten years. Since that date I have performed the operation twenty-seven times. In this paper, I desire to give my experience in the last year and a half with the method.

The subject of retroversion of the uterus has been one of extreme interest to me for the past fifteen years, and when the frequency of the deformity is considered, together with the many difficulties in the way of its cure; its importance to both the general practitioner and the gynecologist is evident. The dividing line which separates the cases which may be relieved by the use of a properly fitted pessary and those which should be treated surgically, is clearly defined. I shall not attempt, however, to enter into this discussion, neither shall I dwell on the value of operative procedures other than that of sacral suspension.

It has been my good fortune to have had a large clinical experience in gynecology, and through this method of observation and research, I came to the conclusion years ago that the recognized operations of ventral suspension, ventral fixation, the Alexander operation, operations on round ligaments and broad ligaments, vagino fixation, and latterly, the Gilliam operation, all failed to consider the relation between the under surface of the second sacral vertebra and the lower segment of the uterus. When this relation is taken into consideration it must be with the patient in the standing position, bringing to mind the tipping of the pelvis and altered relation of all the pelvic organs to the bony structures, also gravity and its correlation with intra-abdominal pressure. If these are considered it is at once apparent that the only rational method for holding the uterus in place, is suspension and not support, and, therefore, the utero-sacral ligaments at once become of prime interest. It is my opinion that one of the reasons for the large percentage of good results reported by many operators with many methods of operating, has been due to the fact that the elastic limit of the utero-sacral ligaments had not been reached, and when the fundus was drawn to its normal position, and intra-abdominal pressure and gravity returned to a normal correlation, the elasticity of the ligaments returned, and the uterus was held in position.

Much might be written about the general scheme of the uterine suspension, the round ligaments, the broad ligaments, the utero-vesical ligaments, but time and space will not permit of dwelling upon this subject. One point, however, I desire to call particular attention to, and that is that the levator ani, the perineum, and all the pelvic floor muscles have nothing whatever to do with uterine suspension except indirectly, when pelvic tears exist with dyscrasia of the two halves of the levator ani muscle, the intra-abdominal pressure being in consequence enormously increased plus a distortion of normal gravity. In this way an abnormal and very greatly increased strain is put upon the uterine supports, and they yield with all the pelvic structures; but this does not demonstrate that there is any relation between the scheme of uterine suspension and the mechanics of the pelvic floor. A proof is the frequency of retroversion in patients who have never been pregnant, and in whom pelvic floor injuries are out of the question.

Too much stress cannot be laid upon the importance of the mechanism of the pelvic floor and diaphragm, and to the fact that the uterine body is an organ held above the levator ani and swung in position by the utero-sacral ligaments, held laterally by the broad ligaments, the fundus being held forward by the round ligaments, this entire mechanism being supported above the pelvic diaphragm. The teaching in the early history of gynecology that the perineum was the point upon which the uterine body was balanced seems hardly worth consideration. Admitting the fallacy of the perineal support of the uterus, you come upon, by a very rational method, the function of the utero-sacral ligaments which, as I have already stated, are the only ligaments which run directly from the uterine body to the only bony point, which, with the patient in the upright position, is above the uterus. These two ligaments are strong fibrous bands covered

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by folds of the peritoneum, the uterine end having considerable muscular fibre in it. The sacral end is, when drawn upon, fan-shaped and adherent to the bony structure. These are true ligaments and are the only supporting or hanging ligaments of the uterus. There is no doubt at all that the broad ligaments are strong factors in preventing lateral displacement, and indirectly help to support the weight of the uterus, but their location and attachments are not such as to prevent retroversion or prolapse when the utero-sacral ligaments give out; neither are the round ligaments from their origin, direction, and attachments, such as to prevent retroversion or prolapse. The round ligaments from their origin, direction, and attachment, are distinctly non-supportive, and act only as guy ropes in holding the fundus well forward, and keeping the intra-abdominal pressure upon the posterior surface of the uterus. It seems to me that these statements are borne out by the observation of every operator, because there is no opposition offered to retroversion by the broad ligaments, and the round ligaments easily stretch even when perfectly normal, allowing the fundus to be retro-displaced to any degree with the slightest pressure. These facts have been brought to my mind by innumerable cases in the past twenty years.

It may be well for purpose of clearness to outline the operation. The patient is prepared in the usual manner. The incision should be made low, extending down to the symphysis, and varied in length in accordance with the thickness of the abdominal wall. A two and one-half inch incision is ample to perform the operation provided it is made as indicated above. After the incision is made, the patient is placed in the extreme Trendelenburg position, and I have found it materially helpful, after the Trendelenburg is obtained, to have the body held in position by shoulder clutches, and not by flexion of the legs. This point I believe is a material aid in bringing the posterior portion of the true pelvis into view. The next step in the operation is to empty the true and false pelvis of the intestines, these being held well up above the brim of the pelvis by abdominal pads wet in hot saline. The uterus is then lifted up, and held in position by a volsellum, the ovaries and tubes inspected, and the necessary plastic work performed. It is obvious that adhesions binding the uterus, tubes, and ovaries, into abnormal position, must be broken up, or ligated and cut. After the uterus is free, the operator inspects Douglas' cul-de-sac, and locates the origin of the utero-sacral ligaments from the corporo cervical junction. The ligament opposite the side upon which the operator is standing should be first operated on; a French clamp grasps the ligament about one-half inch from its origin at its uterine end, drawing the ligament upward, inward, and forward. The web-like relaxed ligament will be seen pulling out from the side of the pelvis; this should be grasped by a second French clamp at a point three-quarters of the distance from the uterine end of the ligament to its sacral insertion. This gives the operator two fixed points. Approximating these two points, the point at which the ligament should be sewn to the uterus may be easily gauged. The uterus will swing easily up toward the clamp which is nearest the sacral insertion of the ligament. If the distance between these clamps is not easily traversed by the lower segment of the uterus, the point at which the second clamp is attached to the ligament may be changed to one nearer the uterine body. I believe that there is greater danger of not shortening the ligaments enough rather than shortening too much. Another point, however, is that if there is too great a strain on the sutures they may yield, and the desired adhesions not formed strong enough to hold the uterus in place. It is well to test two or three points at which the uterus seems to hang best. The next step in the operation is, grasping the relaxed portion of the ligament at a distance midway between the second clamp and the uterine origin of the ligament by a third French clamp. A suture of No. 2 chromic catgut or Pagenstecher is passed through the origin of the ligament and through enough uterine tissue to form a firm hold. This stitch is tied, the other end grasped by an artery clamp and the needle is again passed through the base of the ligament. The first clamp attached to the ligament is then removed and the second clamp with its reduplicated fold of ligament is brought upward, forward, and inward to a point where the needle which has just been passed through the base of the ligament, may be carried through both layers of the reduplicated fold of the ligament. This reduplicated fold of the ligament is held close to the uterus by clamp No. 2 during the process of insertion of the needle and the placing of the second knot. When this knot is tied clamp No. 2 should be removed, thus allowing the bringing of the reduplicated fold of the ligament closely and snugly down to the base of the ligament at the uterus. Much of the success in the operation depends upon the placing of this stitch, as that is really the point of anchorage of the ligament. Should a tip of the reduplicated fold remain after the tying of the stitch, it should be held in place by a supplementary suture placed through it and bringing it snugly to the base of the ligament. Clamp No. 3 is then drawn upward, outward, and backward, showing the three layers, and a stitch should be inserted midway between the clamp and the stitch already in place. This is tied and a third stitch is placed through the two layers of the ligament at clamp No. 3, and through the sacral segment of the ligament, high enough to bring the three folds of the ligament taut. Two stitches may then be placed between those already in place, or the folds of the ligament may be overhanded from the uterine end, backward. It is highly im-

portant before placing the stitches, to be sure by palpation that the ureter is not in the folds of the ligament or in danger of being damaged by the stitches. If the ureter is felt when the ligament is drawn up it can easily be pushed aside between the thumb and forefinger. It is also an important thing to place the stitches deep enough in the folds of the ligament to hold well.

In all retroverted uteri there are numerous enlarged veins in the broad ligament and pelvic wall which must be avoided entirely by the sense of sight. This procedure is repeated on the opposite side and the operation is completed.

The holding of the uterus is accomplished either by a volsellum put into the uterine body just posterior to the median line of the fundus, and the uterus held well forward, downward, and under the symphysis, or the lower segment of the uterus may be drawn up by the first stitch. After the operation is completed the uterus will be seen to remain in a normal position with freely movable fundus, even in the extreme Trendelenburg. If the condition of the patient warrants it, and the procedures have not taken too much time, the appendix should be removed. It is my opinion that this is an indicated procedure whenever the abdomen is opened. The abdomen is closed in the usual way by layer stitch.

Since my paper of February, 1909, I have performed the operation twenty-seven times and of the entire series I am able to report three deliveries; one was delivered early in 1909 her parturition was normal and when I saw her six months later she seemed to be in excellent health and reported that she had no symptoms. She promised to come to my office but failed to do so, and I am unable to state as to the anatomical result.

The second patient, Mrs. E. B. H., I delivered one and one-half years after operation, the delivery being extremely easy and labor short. Examination one month after delivery revealed no return of the retroversion.

The third patient, Mrs. G. L. N., was delivered by Dr. C. E. Townsend, of Newburgh, in August, ten months after operation, who reported to me under date of August 13, 1910: "Patient left the hospital yesterday after making a splendid recovery from her confinement, which was normal in all particulars."

One other case which I desire to mention is a case that applied to me for relief from the symptoms of retroversion five years ago: M. S. B., age 31. In her case there was a very considerable amount of prolapse and retroversion with marked stretching of the utero-sacral ligaments. I advised operation, which she declined, and later went to another surgeon, who operated on her four years ago, and performed a ventral suspension. The patient returned to me for examination May 8, 1909, all the symptoms remaining. I find on her history the note that on straining, the fundus is held by the ventral suspension in fairly good position, the cervix, however, is protruded through the vaginal introitus, the lower segment of the uterus coming down through the arc of a circle in such a manner as to collapse the entire vaginal canal and allow the cervix to protrude from the body. I operated in June, 1909; and, on opening the abdomen, found two of the most perfect bands produced by ventral suspension that I have ever seen, and the fundus held well forward, the utero-sacral ligament, however, being very much elongated. The operation of sacral suspension was performed together with removal of a portion of the right ovary, which was cystic. The patient made an uneventful recovery. One month after operation the position of the uterus was normal. The improvement in the patient's general condition was retarded through illness in her family; also there occurred an enlargement of the remaining portion of the right ovary, which gave me considerable anxiety, and which I was prepared to operate on six months after the sacral suspension; she, however, accepted the alternative of local treatment followed by sanitarium care, and when I last saw her, one year after operation, she had gained over twenty pounds and her general health was excellent, the uterus was in position and the enlargement of the right ovary had disappeared. In this case I had the patient wear a pessary for three or four months, as the intra-abdominal pressure was greater than the average.

One other case is worth stating. The patient, E. N., age 27, single, came to me in July, 1910. She was from the mountain regions of Kentucky, with a physical development rugged in the extreme. Two years ago she had a laparotomy done in Kentucky, with a ventral suspension; six months later she had a curettage. Examination showed that the fundus was held very high, and there was marked antrocession of the lower segment of the uterus. Tubo-ovarian masses were felt on each side. Operation was performed at St. Elizabeth's Hospital; curettage, removal of the left tube and ovary from hematosalpinx, and cystic ovary; on the right side, the tube was in much better condition but considerably diseased. I was able to do a sleeve and cuff operation on the tube, removing about one and one-half inches. Adhesions were found between the omentum and abdominal wall, and the uterus adherent to the omentum, requiring a resection of a portion of the inflamed omental structure. Sacral suspension was performed easily, upon completion of which the uterus was in a normal anatomical position. Six weeks after operation the anatomical result was perfect, and the patient expressed herself as feeling better than she had in many years. She had returned to her home in the mountains and I have not heard from her since.

My experience with sacral suspension has been most gratifying, the results of the 127 cases I have operated on, having fully justified my expectations.

SOME MISTAKES IN USE OF OBSTETRICAL FORCEPS.*

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Mr. President and Members of this Society:

I THANK you for the courtesy you have shown me by asking me to have a part in your program. As your program is crowded and the time allotted to each paper is short, I thought best to read a brief clinical paper.

About ten years ago without any special obstetrical experience except that gained in general practice, I was placed in charge of the obstetrical clinic, indoor and outdoor, at the Maryland Lying-In Hospital. This clinic takes care of about 500 to 600 cases yearly, the patients being both white and colored in the proportion of about seventy colored to thirty white. At that time, I had very definite ideas concerning obstetrical procedures including the use of forceps, but found very soon, that with a larger experience, I was compelled to change many notions which I had held finding that I had made many mistakes, some through thoughtlessness and some through ignorance, and as cases kept coming to the hospital after unsuccessful attempts at delivery with forceps by other men and others where the patient had been neglected and no attempt made to deliver them, and others where serious damage had been done by attempts to deliver with forceps when such mode of delivery was clearly contra-indicated, I began to realize that some other men were making the same mistakes that I had made and that the minds of many general practitioners were much confused concerning the frequency with which forceps should be applied, the indications for forceps delivery, the methods of application and delivery, and above all the contra-indications to the use of forceps.

To illustrate: A case would be brought in with contracted pelvis, after being in labor forty-eight hours or more with history of two or three unsuccessful attempts to deliver with forceps. In addition to having a dead child in utero she would probably have lacerated cervix, vagina and perineum and the beginning of an infection. On several occasions women have come to the hospital with perineum torn entirely through with the tear extending up the rectal wall for one or more inches, child still undelivered—this condition caused by the slipping of the forceps. On several other occasions women have been seen with severe shock from ill-advised attempts at forceps delivery and child with fractured skull. On at least three or four occasions women have been brought to the hospital with ruptured uterus the result of traction with forceps before the cervix was dilated sufficiently, or with severe hemorrhages from deep tears of cervix. Again cases in which the pelvic joints were injured by too vigorous traction in wrong direction and many cases where the woman was infected by repeated attempts to apply the forceps when the forceps were for various reasons contra-indicated.

You will say that these cases are not unique and that such cases can be seen in any obstetrical clinic with a fair number of cases. This is true, but I am not trying to bring you new doctrines but to emphasize mistakes, and not a single one of these mistakes should occur if the principles of the application of forceps and the methods of forceps delivery are known and applied and if the contra-indications to the use of forceps are also known and respected.

The first great mistake in the use of the forceps is that it is used too frequently. The only statistics available in this direction are, of course, the statistics from the large clinics and those run from 1½ per cent. up to 10 per cent. of forceps delivery. It is to be remembered that a large clinic receives practically all the severe cases among the poorer class of people in its neighborhood or at least receives a much larger proportion of operative cases than would occur in the private practice of any single practitioner.

In our own clinic last year I found that in 550 cases we had sixteen forceps deliveries or about 3 per cent. and when it is remembered that about 70 per cent. of our cases are negroes and recall the prevalence of rhachitis among them, the very unfortunate hygienic conditions in which they live, their proneness to all manner of deformities and disease, it will readily be seen that the proportion of operative deliveries must be much higher than among an equal number of whites so that I feel that our percentage of forceps deliveries must, if proper judgment was used in the selection of cases, at least represent the maximum number of cases which should have forceps delivery.

Yet, I think, we all know men who are accustomed to deliver a much greater percentage of women with forceps than this and who boast of the fact, they never allow a woman to suffer very long. The reason that the majority of men use the forceps too frequently is that they are not clear as to the indications for its use.

The indications for the use of forceps are very clearly and correctly stated in text books about as follows: I am quoting from Edgar. "To be used whenever labor is to be quickly terminated, owing to the peril of mother or child provided that contra-indications are absent." This would include such conditions as eclampsia, placenta prævia, accidental hemorrhage, etc., always remembering the contra-indications. I imagine, however, that we will all agree that in the vast majority of cases, the forceps are used because of real or supposed exhaustion of mother and occasionally because of asphxiation of the child.

Exhaustion of the mother.—This is, I believe, a much overworked term, made to cover a multi-

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tude of other conditions such as impatience of the mother, anxiety of friends, desire to save the patient pain and distress, over-anxiety on the part of the physician or a sleepy, tired or busy physician and some other conditions. Exhaustion ought to be easily and definitely determined by a careful physician. A pulse rate which gradually rises to 100 or more and continues to grow more rapid and weaker certainly suggests some exhaustion. If this be accompanied by a rise of temperature to 100 or more it becomes more positive and if these are accompanied by a refusal of the head to advance because of inefficient pains and especially of pains which are growing weaker rather than stronger with, possibly, beginning œdema about the fourchette I think the diagnosis of exhaustion may be made with certainty and may usually be made safely before this degree of exhaustion is reached, but I certainly wish to insist that a woman is not exhausted simply because she refuses to bear pain any longer and demands relief, or because her family are excited and want the suspense ended, or because the patient has been in labor any number of hours. Exhaustion is a physical condition which may readily be determined by the physician and he is the only individual in the case who is qualified to decide whether the patient is exhausted or not and he should under no circumstances, allow himself to be pushed into an operative interference against his own judgment. I doubt if there is a single physician here who has had considerable obstetrical experience who has not been called in consultation and requested to terminate by operative interference a perfectly normal labor probably one-half or two-thirds advanced where all that was really needed was to control the patient and her friends until labor was terminated spontaneously. The average duration of labor in primiparous women is eighteen hours and in the absence of anæmia from exhausting illness, cardiac trouble, pneumonia or other complications exhaustion is seldom present before the expiration of this time. What conditions must be present before the forceps is applied? (Of course, we all agree that the child must present properly and that the membranes must be ruptured) in addition to these *the cervix must be dilated.* This is a prerequisite. It has been only a few months since I was called to a case and found that I was expected to deliver the woman at once with forceps. I suggested to the family physician that the patient was still in good condition, the child in good condition head beginning to engage and that there seemed to be, as yet, no good reason for interference and that, any way, the cervix was not sufficiently dilated (it was about a little larger than a silver dollar). He was inclined to ridicule me and wanted to wager that he could get the forceps on, through that much opening and went on to say that he had often applied the forceps through no larger opening. I believed him because I know from experience that this is not uncommon practice. Now we may wonder at this, but why should we when in many of the text books "dilatation" is given as one of the functions of the forceps. Williams, in his latest edition, gives six functions of the forceps of which dilatation is one, though, afterwards he discountenances this use of the forceps and pronounces it unjustifiable. Fortunately, the teaching in this regard is improving and most of the recent text books omit this function. Neither Edgar, Davis or Hirst even mention it. The application of the forceps to the head of the child with the cervix incompletely dilated means in a great percentage of cases additional shock to the mother, severe injuries to the cervix or lower uterine segment and possibly severe hemorrhage from these injuries, or sub-involution or infection in the puerperium with years of invalidism as a possible late result. If it becomes imperative that the mother be delivered and if it be decided that the forceps is to be used then a partially dilated cervix must become a fully dilated cervix under manual dilatation and not dilated by the head propelled by forceps. To ignore this contra-indication to the use of the forceps is to make one of the most serious obstetrical mistakes. I have seen during the last year two deaths from hemorrhage resulting from tears due to application of forceps before full dilatation.

The head must be engaged.—If there is one opinion that is firmly fixed in my cranium it is that the forceps is not to be applied to the unengaged, or floating head. The reasons for this opinion are: First, it is practically impossible to apply the forceps properly to the head above the superior strait. That is, in an ideal application. Second, it usually kills the child. Third, it almost always injures the mother, sometimes very badly. Fourth, there is always some better thing to do.

Davis says: "If the head be not engaged and if it does not engage with good labor pains and judicious manipulation, the use of the forceps is absolutely forbidden."

Edgar says: "A head movable at the brim constitutes a contra-indication to the use of the forceps."

Yet, we all know of many cases where the forceps have been applied to the floating head to the detriment of both mother and child and the worst of it is that many, many times, this is done before the head has had a proper chance to engage, when, if the patient is let alone she would deliver her child spontaneously.

Traction.—The last of what I consider the great forceps mistakes is: improper traction. Traction should be made in the right direction and with the exercise of very little force. Traction, in the wrong direction is, of course, due to ignorance of the anatomy of the pelvis, especially, of the birth canal.

My earliest introduction to operative obstetrics

was to see a man weighing in the neighborhood of 200 pounds, with his feet against the side of the bed pulling on a child with forceps with another man nearly as large helping him pull, with several people holding the patient on the bed. They were pulling on an unengaged head squarely against the symphysis pubis. The child was dead, the mother died the next day.

If the forceps is being used in the right case and if traction is being made in the right direction, very little force is necessary. If gentle traction in the right direction does not advance the head after a few trials, quit and think of some better thing to do.

I have named only a few of the mistakes which may be made in using the forceps. I have named those which I considered most important and serious. I wish to state my opinion that in the whole armamentarium of the medical profession there is no instrument which is used so unnecessarily and recklessly and with so much damage to the patient as the obstetrical forceps.

THE PHYSICIAN AND THE MENTAL DEVELOPMENT OF THE YOUNG.*

By PHILIP W. T. MOXOM, M.D.,
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THERE is no problem connected with our modern life that may more seriously engage the attention of the medical profession than the question of the mental development of the young. Two factors are concerned in this question: first, the *physical* and *mental condition* of the child; second, the *education* of the child. In both directions the physician has a responsibility. His relation to the first factor is, of course, obvious. Matters touching the physical welfare of the child are his especial province, nor does he fail to recognize the close bond between physical and mental well-being. *Mens sana in corpore sano,* is a truth upon which are based many of his injunctions and advices. Investigations into the cause, prevention, and cure of disease, studies pertaining to questions of food, clothing, housing, exercise, etc., are all undertaken to promote and preserve healthfulness of mind as well as of body. In short, the physical condition of the child and all the elements of its physical environment, that help or hinder the growing mind are matters belonging particularly to the medical profession. If, however, we, as physicians, are to discharge our full responsibility in this direction, increasing attention must be paid to the early recognition and correction of physical defects, responsible, in many cases, for mental abnormality and deficiency in children. With the more serious defects, found in idiots, imbeciles, and the feeble-minded, we are not, here, concerned; although for the latter class much can be done by the correction of physical defects not inherent in the brain, and by education. But it is to certain general physical ailments productive of minor mental defects, that the writer desires briefly to call your attention.

A detailed rehearsal of all the conditions that may interfere with the normal development of the mind might properly include all the chronic pathological conditions affecting children; but the chief factors may be grouped under the following heads: Chronic fatigue, toxæmias, starvation, neurotic conditions, defective hearing, vision and speech.[1]

Chronic Fatigue.—From whatever cause is sure to retard the child's mental growth. Late hours, disturbed and restless sleep due to morbid physical states, are among the causes of this condition.

Toxæmias are frequently the cause of mental dullness and deficiency. Auto-intoxications resulting from constipation, bacterial infections of the digestive tract, absorption from diseased tonsils, or faulty metabolism, make a child irritable, peevish, and unable to profit by instruction, scholastic or other. With older children and with adolescents tea and coffee-drinking and in boys, the use of tobacco and sometimes of alcohol are found at the bottom of mental abnormalities.

Starvation, whether from lack of sufficient food or from improper food or from constitutional disturbance impairing nutrition, is a factor of great importance. An ill-nourished and consequently weak and anæmic child has not the necessary energy to expend in acquiring an education and its mental growth must inevitably be stunted.

Neurotic Conditions.—Under this head may be included a variety of conditions characterized by nerve unbalance, ranging from chorea and epilepsy down to innumerable nerve disorders presented by so-called "nervous" children. The causes at the bottom of this nerve unbalance may include all the conditions mentioned above as well as insufficient exercise, lack of fresh air, various reflex irritations, eye-strain, etc.

Finally, defects in vision, hearing, and speech, may be set down as among the more important factors prejudicial to the developing mind. To a child suffering from any of these defects, everything is fatiguing, and fatigue itself is a cause of mental backwardness. Moreover, children who cannot see or hear well must get wrong impressions and form wrong conclusions. Errors in refraction and muscle imbalance are the usual causes of defective vision, as chronic middle-ear disease, often associated with adenoids, is the usual cause of defective hearing. Marked speech defects, due in some cases to nasopharyngeal obstruction, also have a bearing upon the mental development. Children so affected frequently become sullen, moody, and melancholic, conditions which tend to increase as they grow older.

* Read before the Section on Pediatrics of the Medical Society of the County of Kings, October 26, 1910.

The above brief and fragmentary statement of certain facts, culled from Newmayer's investigations of defective children, is presented here to illustrate the intimate connection between physical and mental condition and to emphasize the importance of the physician's relation to the first factor in the mental development of the young.

There is, however, a second factor and that is the education itself. Adequate care of the child's physical condition may be considered as preparatory, that is, as putting the child in the best possible state to profit by the educative influences brought to bear on him. But even the normal child, if its mind is to develop rightly. must be trained rightly. Education in its fullest sense is not merely a question of training the intellect, it is also a question of educating the will, of teaching the individual to govern his emotions, of developing moral fibre. With this phase of our subject has the physician, as such, any direct concern?

It has been said that the foundation of most mental disorders occurring in adults, is laid in childhood and adolescence. However this may be, it is certainly true, that among the ever-increasing number of our asylum-inmates, and among the larger number outside who suffer with various forms of psychoneurosis, many are found who owe their condition in large measure to the fact that they have not learned, when young, how to lead self-controlled and efficient lives. Leaving out of account cases due to definite brain lesions, and making due allowance for such causative factors as psychopathic heredity, alcoholism, syphilis, and other morbid physical conditions, the writer is convinced that there are many individuals who give way mentally under the stress and strain of responsible life, because their early education was deficient, or vicious or both. In a recent paper H. W. Wright[2] says, "In looking at the histories of cases of dementia præcox, undifferentiated depressions, the various types of psychoneuroses, psychasthenia, hypochondriasis, neurasthenia, and hysteria, one is surprised to note how small a part heredity seems to play in the causation of these disorders. One must conclude, then, that the mechanism of the abnormal condition is a part of the acquired mentality of the individual and this mentality is the result of education. An analysis of such cases reveals to a startling degree that the patients have never been trained to adequately adapt themselves to the variations of environment consequent upon modern life, to adapt themselves to misfortunes and all that term embraces, to bring themselves to a correct understanding of their ethical relation to their fellows, or to bring their emotions under the cooling survey of their intellect. They cannot think sanely because they have never learned how. How many cases of insanity have their origin in ignorance of sexual hygiene, or in an unhealthy attitude of mind upon the subject. which again is due to lack of proper education?"

In view of the foregoing considerations, it can be maintained that the education of the young may engage the attention of physicians as a legitimate department of preventive medicine. It is not assumed that he should concern himself with *methods* of mental training and discipline; these are matters belonging to teachers and parents; but rather with the quality of the education and with the character of the many influences in the life around that constitute the mental as well as the physical environment of the child. The pediatrist, in particular, whose especial interest is in the young, may justly consider this aspect of child life and growth as germain to his work. Nor is this matter alien to the interest or consideration of the physician in general. If we are ever to stem the tide of mental disease, if we are ever to restrict the ravages of venereal disease, we must begin by the education of the young. Briefly, some suggestions may be offered as to the direction and extent of the physician's activities in this connection.

First, he may exert his influence by arousing the general public to the importance of physical defects as handicaps to normal mental growth, and to the dangers to the individual's future well-being arising from deficiencies in education. The medical profession as a body may co-operate with other agencies in bringing about betterments in school conditions. An instance of bad school conditions may be cited here in our own borough, where the enormous over-crowding, fifty or sixty pupils in rooms designed for twenty-five or thirty, is not only unsanitary, but entirely precludes close personal relation between teacher and pupil, a relation often, if not always, of more value than the things taught.

Second, by greater co-operation with teachers. To this end our system of medical inspection of schools, might profitably be enlarged to insure a more careful search for physical defects, and also a more careful study into the mental peculiarities, deficiencies and aptitudes of each individual child.

Third, by an increased co-operation with social workers, in the investigation and attempted rectification of conditions existing among the lower classes, conditions which cannot fail to stunt not only the physical but likewise the mental growth of their children.

Lastly, the physician, in his relation to the family in private practice, has the opportunity not only of observing and correcting physical defects occurring in the children that come under his care, but he has also the opportunity of advising parents where mistakes in mental training and discipline are being made. The writer feels that in some respects this is the most important phase of the physician's relation to the mental development of the young, and deserves greater elaboration than the time allows. It is one requiring not only knowledge, but careful and patient observation and not a little tact, but

the enhancement thus afforded to the efficiency of the lives concerned, may well repay the labor.

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RECOGNITION AND TREATMENT OF ACUTE MASTOIDITIS.

By GEORGE H. ROCKWELL, M.D.,
SYRACUSE, N. Y.

IN considering the acute inflammations of the middle ear it may be well to review briefly the anatomy of the parts to be considered.

The middle ear consists of the eustachian tube; the tympanic cavity and its contents, the ossicles and their adnexa; the mastoid antrum and cells.

The mucous membranes of these structures are continuous with and subject to the same changes that we find in the nasopharynx, and disease may invade these structures with comparative ease, once it has passed the isthmus of the eustachian tube. The isthmus is near the inner end of the tube and easily swells enough to close the tube and prevent drainage into the nasopharynx. This is the first lock against spontaneous resolution.

Nasal deformities decrease nasal resistance and ear resistance to infection. Adenoids are continually courting trouble for the ears by bathing the eustachian orifices in an infected mucus secretion and by mechanically blocking normal drainage from the middle ear.

The most important factors in the tympanic cavity are the mucous membrane and its closely connected periosteum—so closely connected as to be practically one structure.

The communication between the tympanic cavity and the mastoid antrum by way of the aditus, and the continuation of their lining membrane, explain the facility with which mastoid involvement occurs.

In the aditus we have a second lock against retrogression and when the mastoid is once actually invaded, spontaneous resolution is extremely difficult; if not impossible.

"It is perhaps true that some cases of uncomplicated inflammation of the mastoid cells do recover spontaneously, it must not be forgotten that many lives have been sacrificed because the operation of opening the mastoid has been deferred too long."—(Bacon.)

"The mastoid antrum is the undisputed center of distribution of infective material throughout the mastoid process"—(Whiting) and associated structures.

Caries and necrosis of the ossicles and bony walls is quite liable to occur from stagnation of the circulation through the muco-periosteum causing starvation of the bony structure. Either structure may be involved without the other or they may each be victims of the same process.

Caries is the usual cause of extension into the mastoid and is usually responsible for meningitis, extradural abscess, brain abscess, sinus thrombosis, cervical adenitis and pyæmia.

Peroxide of hydrogen when used in an ear which is exposed to infection by having a perforated M. T. may cause this class of extension with the complications enumerated.

Granulations or polypi in the middle ear are probably always due to carious bone though the particular carious spot may not be located.

Necrosis and caries may be so extensive as to involve a very large part of the temporal bone; or the temporal bone, especially the mastoid process, may be traversed by one or more fistulous tracts surrounded by apparently healthy live bone. This latter is known as the Bezold type.

Perforation either externally through the outer table or internally through the inner table into the cranial cavity is the result of nature's attempt to effect drainage of the parts. Therefore, it is problematical which of the two tables will give way first. Those of us who have worked our way through the dense structure of the mastoid cortex have little faith in nature's unaided efforts to properly treat mastoiditis acute.

"Pathogenic germs are always found in the nose, mouth, nasopharynx and auditory canal." —(Rohrer.)

"Principally through the action of the ciliated epithelium in the eustachian tube the middle ear is normally free from germs."—(Preysing.)

If the bactericidal power of the tubal mucous membrane becomes impaired by adenoids, nasal deformities such as spurs or deviations of the septum: hypertrophy, cysts, or polypoid degeneration of the turbinates; multiple nasal polypi; accessory sinus suppuration; foreign bodies with their attendant inflammatory changes; the exanthemata or other infections of the nasal mucous membrane; then the middle ear may readily become infected.

"With an intact M. T. infection from the auditory canal is improbable." (Smith and Politzer.)

By the introduction of foreign bodies such as ear spoons, hair pins, hat pins, nails, etc., or by "boxing" the ears, or forcibly syringing the ears the M. T. may be injured or ruptured and the tympanic cavity infected. In mastoiditis the infection comes from the tympanic cavity in the great majority of cases. It is possible for infection to come and to extend by the blood and lymph streams and by metastasis.

"Congestion in the lining membrane to the point of starvation of the bone may cause death of the bone. Suppurative mastoiditis is of this kind."—(Whiting.)

The *usual* case of acute mastoiditis is easy of

recognition. Beginning with a "cold in the head" or a "sore throat" followed in a few days by earache which is quite extreme and prevents sleep. If no rupture of M. T. takes place, the ear drum will be bulging, pulsating, and reddened. If it is neglected and not properly incised to relieve congestion and give ample drainage the pathological process will very probably continue and extend, finally rupturing the M. T. and very possibly involving the mastoid antrum and cells.

It is at the stage of beginning acute otitis media that the greatest amount of good can come from prompt energetic treatment, by free catharsis and free incision of the M. T. followed by oft repeated cleansing of the auditory canal. Simple treatment will not suffice after the mastoid is once involved. Tardy attention to the acute earache is quite liable to be followed by pain in the mastoid: pain of a deep boring character worse at night or when the head is lowered. This is the beginning of the mastoid involvement and calls for prompt treatment; free incision of M. T. and the inner post. Auditory canal wall; ice packs to the mastoid night and day; frequent irrigation of auditory canal and free catharsis. Such treatment may possibly bring about resolution if the process has not progressed to the point of suppuration or bone destruction.

If the bone is actually necrotic, even a very small area, there is no probability of resolution.

In the *average* case of acute mastoiditis, we find: Earache followed by a purulent discharge; bulging reddened M. T.; possibly discharge has diminished or increased suddenly; persistent pain in mastoid which may radiate over side of head; sagging of the post. sup. auditory canal wall. Pain increased on pressure over antrum, tip, emissary vein, and pre-mastoid lamina. This tenderness is the most persistant symptom. No pain in moving auricle. Blood count shows polyneuclear count of 85 per cent. or over. Pulse slightly accelerated and temperature *slightly elevated.* When drainage is free there is little if any pain in the parts involved.

"Facial paralysis does not necessarily point to mastoiditis. It may occur in acute catarrhal or acute purulent otitis media."—(Whiting.)

After these symptoms have been present a variable length of time, then, depending on the virulence of the infection, resisting power of the patient, and upon the treatment employed, pain may rapidly subside and the patient feel very comfortable. At this time perforation of either the inner or outer tables has occurred; if the inner table has given way, subnormal temperature and a rather slow pulse are the rule; if the outer table has given way temperature and pulse will probably be normal or slightly elevated. There will also appear with this latter condition an œdema and redness over the upper part or over the whole mastoid process. Later, fluctuation may be made out as the result of subperiosteal accumulation of pus.

"Fluctuation is an exceedingly tardy aid to diagnosis and usually implies neglect, or incompetence on the part of the medical adviser."—(Whiting.)

There may be perforation of both the inner and outer tables which accounts for fluctuation with slow pulse and subnormal temperature. Subnormal temperature with persistent mastoid tenderness in otitis media is a positive indication for the mastoid operation as it invariably indicates cerebral *irritation* at least.

There is no need of dwelling on the intracranial complications in connection with this paper.

"Recognition of the indications for operation and prompt action have reduced the mortality in mastoiditis to scarcely 1 per cent."—(Whiting.)

Acute mastoiditis needs to be differentiated from furunculosis of the auditory canal and is usually easily accomplished. Pain on moving auricle, inability or difficulty in introducing an ear speculum on account of the swelling of the auditory canal, pain in front of ear, pain increased on motion of the jaw, general disturbance slight, no pain on pressure over mastoid points. These are the cardinal points of diagnosis of ferunculosis. Exostosis, narrowing or atresia of auditory canal, complicate the examination of the fundus and auditory canal, but should not interfere with a correct diagnosis.

Acute parotitis may have to be considered and differentiated from a far advanced, cortically perforated mastoiditis with cervical infection.

With the exception of the interpretation of pain over the mastoid points, the findings in mastoiditis are objective; the diagnosis and treatment should correspond to the physical signs.

We have reported a case with typical mastoid *symptoms,* without a single *physical sign* of mastoiditis. This was a case of referred pain of *dental origin* and under proper dental treatment recovered rapidly. In babies and very young children the first sign of acute mastoiditis may be œdema over the mastoid. We have seen several of these cases and known of no condition which originates with œdema and fluctuation over the mastoid process. In these cases the "diagnosis" being self-evident the mastoid operation should be performed without delay.

Treatment.—This may be divided into two classes. Prophylactic and treatment after the disease has developed.

Prophylactic treatment consists of recognition and proper treatment of adenoids, nasal deformities and inflammatory conditions of the nose and throat as well as the recognition and treatment of the tubo-tympanic inflammations.

Earache is best treated by free catharsis, free incision of M. T. and warm irrigations of mild antiseptic such as saturated solution acidi borici. "Hot compresses, poultices and fomentations tend to hasten performance of M. T. which is not desirable; they also tend to diffuse suppuration." (S. MacCuen Smith.) Rupture should be an-

ticipated by free incision. Baked onion hearts, laudanum and sweet oil are mentioned only to condemn.

In "chronic running ears" cleanliness is the first object to be accomplished. Warm saturated solution acil boric is very good for this. Peroxide of hydrogen is mentioned only to be condemned as a large number of mastoid inflammations are caused by this drug.

Carious bone and polypi should be removed and the ear given a chance to recover. While mastoiditis is developing we may accomplish much by renewing our efforts along the line of free drainage of the middle ear and by ice packs to the mastoid; after it has developed we have only operative measures on the mastoid to save our patients.

Mastoiditis occurring in the exanthemata or grippe is mastoiditis just the same and must be treated in the same way as though it were not a complication of such disease. It is the prompt and proper treatment of these cases that means success or failure.

Finally.—The treatment of acute mastoiditis is operative.

Operative treatment consists of the complete removal of carious bone regardless of the extent. Simple incision over the mastoid does no material good.

After treatment consists of packing the wound with sterile gauze and keeping the wound open until it has healed from the bottom.

Failures of the mastoid wound to close indicates incomplete operation as a rule.

PRESIDENT'S ADDRESS.*

By THEODORE D. MILLS, M.D.,
MIDDLETOWN, N. Y.

THE medical profession as related to the community, state and nation! Does the medical man occupy the position in each, to which his training and education entitles him?

We can start with the proposition that, there is no calling nor profession which calls for so long a time in its preparation as does the study of medicine.

The more prominent of our medical colleges and our large universities are now calling for the degree of Bachelor of Arts, or Science, before the medical student is allowed to enroll himself as a candidate for the degree of Doctor of Medicine. Others require two years in a college as a minimum requirement.

With the higher standard of late years required for graduation from our high schools, the young man has reached the age of eighteen or twenty before he is prepared for college; add to this four years in a college, and four in medicine, or seven years for the combined A.B. and M.D. course in our universities, and then add to this what is vitally essential, two years in a hospital experience, the age of twenty-eight or thirty is arrived at before the practitioner in medicine is thoroughly equipped for actual work in his chosen profession.

Further than this, should a specialty be decided on; it is, I think, universally conceded, that such specialty should only be taken up after five or ten years of general practice, and after such term spent in general practice one or two years more should be spent in special work and study before beginning the practice of any special branch of the healing art, and for the first few years of such practice, the studies are continued in some nearby city and hospital.

What other profession calls for such a prolonged course of preliminary training before actual work is begun which shall bring in any return which can be counted in dollars and cents?

It is a fact that to be thoroughly equipped for the practice of medicine and surgery requires two or three more years of preparation than is required for any other calling or profession.

It would seem as if the practice of the healing art should be protected by laws which would be just both to the members of our profession and to the general public as well.

That it is not so protected is due in part to the fact that this is a free country. The public generally demand the right to be treated by whomsoever they please. It is also due to the additional fact that human nature has been, is, and always will be of a gullible nature.

P. T. Barnum said truly that the American people desired to be humbugged. The educated physician can appreciate fully the truth of this statement. It is a matter of great humiliation to him that the most arrant quack, protected by our extremely liberal laws, succeeds in often impressing upon some of our most intelligent citizens his ability to work the most marvelous cures.

With a good many people the educated physician with his long years of training stands in their eyes on the same plane as the Christian Scientist, the Osteopath, the followers of the Emmanuel movement, or any other of the various sects which essay to practice the healing art. The clairvoyant finds many intelligent people who place more implicit faith in his statements than they do in the opinion of the scientific physician.

There is no new fad in medicine but is soon able to have its following and secure from our pliable legislatures the legal right to practice. It is reasonable to assume that before many years the chiropodists will enlarge their field by taking in all diseases or deformities of the feet and will advertise themselves as Dr. Blank who has achieved many remarkable cures after being given up by the regular profession.

I notice in the public print that in Pittsburgh, Pa., there is a movement under foot among barbers themselves for tipless barbers and the elevation of their profession to the degree of D.T. or Tonsorial Doctor. "There is nothing new

* Read before the First District Branch of the Medical Society of the State of New York, at Newburgh, October 27, 1910.

under the sun." We are about to return to the ancient régime. Whereas in the olden time all surgeons were barbers. Now all barbers are to become doctors.

I assume that in a few years the educated physician will esteem the title of Mr. So and So as a greater mark of distinction than Dr. as is the case in England with those who have attained distinction for their learning and true scientific attainments.

Under the laws of our land the brute creation stand a better chance of being scientifically treated than do the members of the human family.

I quote from the New York *Times* of August 30th last:

"Martin Bekins, of Los Angeles, Cal., candidate for State Senator, was arrested to-day on a charge of cruelty to animals. He tried Christian Science treatment on a horse. The horse died.

"Neighbors telephoned to the Society for the Prevention of Cruelty to Animals that a horse belonging to Bekins, who is the head of a big corporation here, was very sick. Special Officer Fullerton was sent to the Bekins corral and found a bay horse suffering from colic.

" 'I am doing all I can for this horse,' Bekins told the officer. 'I am treating it with mental science.'

"The sick horse was removed to a veterinary hospital, where it died.

" 'The reason I entered a plea of not guilty,' said Bekins, 'was that I did not employ a Christian Scientist to neglect the horse, as has been charged, but because I wanted to give the animal as good treatment as I want for myself or my children.

" 'A horse is as amenable to Christian Science as a child that cannot understand what it is told. We treat children through Christian Science. Why not a horse?' "

I venture to assert that whereas the neighbors appealed to the Society for the Prevention of Cruelty to Animals in behalf of the horse no one would have interfered had it been a helpless infant or child. The Declaration of Independence of our free and enlightened country declares that all men are entitled to life and the pursuit of happiness, but this does not include the children of Christian Scientists.

I must confess that the medical profession is largely responsible for the existence of the Christian Scientists, the Osteopaths, the Optometrists and other practitioners who have absorbed a large amount of work which should properly be done by the medical profession. Our medical colleges have failed and still fail in properly preparing their students for actual practice. Their teaching has been too largely confined to the theoretical to the exclusion of the practical side of the study of medicine. If every medical student had been drilled in the fitting of ordinary cases of refraction and been compelled to pass an examination on his ability to fit with proper glasses all uncomplicated cases of refraction, it is fair to assume that the optometrists would not be in evidence to-day, and there would be more cases referred to oculists by the general practitioner than is now the case. If every student were drilled in massage and after graduation employed it personally in his practice, or had the profession generally employed this valuable agent instead of drugs exclusively the masseur to-day would have been a valuable assistant to the doctor rather than a competitor masquerading under the delusive title of osteopath.

Had medical colleges taught more impressively the influence of mind over body, had they laid more stress on other agencies and less on drugs the Christian Scientists would not have gained as many converts as they have.

That the public generally should look for miraculous cures and be easily imposed on by those who have no hesitation in promising things that they know they are not able to perform is not to be wondered at. That is a phase of human nature which must always be dealt with. The members of the medical profession themselves are not exempt from the same failing. Are there many of us who have not been taken in by some glib talker who has been more interested in selling his wares than in telling the truth? How many of us are there who have not been taken in by some get-rich-quick scheme and have been handed a gold brick in the shape of shares in some gold or silver mine or land scheme which existed only on paper?

It seems to me that the public will appreciate better the comparative standing of those who practice the healing art by a process of education on the part of the physicians in their relations with the families they are called upon to treat.

Less stress must be placed upon the use of drugs and more stress upon the proper way of living, more upon the prevention of disease than the cure of disease. Would not the education of the public upon the disastrous effects of the practice of the social evil have a tendency to lessen the number of chronic invalids from such causes. Why should the innocent party be not sufficiently educated as to the cause of the diseases to which her sex is subject in order to shield the guilty. Were both sexes thoroughly instructed as to the nature of certain diseases I apprehend that there would be but one case of infection where now two frequently exist.

The public generally have not been educated by the family physician as to the deleterious effects of alcoholic beverages upon the stomach, liver, kidneys, heart and other organs until the damage is done and the instruction given too late. Take our farming community and how frequently we see the most gross carelessness in regard to the sanitary arrangements of the farm. How little attention in the past has been paid to the location of the well with reference to the barnyard, pigsty and out-closets. Are not the medical men who have practiced in that community as responsible as is the farmer on account

of his failure to properly educate his families as to the vital importance of such matters. The medical man should be a leader in the community in which he lives and not simply an adviser.

In the state the medical profession should bear a more active part in the making of laws which govern the commonwealth.

Instead of having committees at work interviewing legislators in trying to prevent vicious legislation where the lives and health of our citizens are at stake physicians who have attained eminence in their profession should be a part of our higher legislative bodies.

While there is always the need of able lawyers and practical business men in our state senates, a few less machine politicians might with advantage to the state be displaced by the educated physician.

Were the medical profession as ably represented in our state senates as is the legal profession the conservation of the lives and health of our citizens would be advanced. There would be less money wasted on barge canals and more money spent on the improvement of our water supplies and the purification of our rivers; our pure food laws would be made more stringent. The cold storage of undrawn poultry would become a thing of the past. The mortality from typhoid fever and other intestinal diseases would show a marked reduction.

The same condition prevails in national affairs.

The medical men have been looked upon too much in the light of advisers rather than active administrators in the conduct of the business of the government in affairs pertaining to health and sanitation. In the army and navy more authority is now lodged in the medical department and is bound to become increasingly so.

The effort that is under way to establish a National Department of Health with a cabinet officer while at present opposed by some, must ultimately prevail.

What is so vitally important as the conservation of the life and health of the nation?

INTERNATIONAL COMMISSION ON CONTROL OF TUBERCULOSIS AMONG DOMESTIC ANIMALS.

By M. H. REYNOLDS, Secretary.

IT seems desirable that the public should be given opportunity to know what this Commission is doing inasmuch as the Commission represents indirectly the Canadian and United States governments, and involves live stock sanitary control work of all of the individual states.

The last session held at Detroit was devoted largely to reports. There were present representatives of Canadian and American breeders, Canadian and United States Departments of Agriculture, American and Canadian veterinarians. The following reported: Committee on Education and Legislation; Committee on Location of Tuberculosis in Cattle; Committee on Dissemination of Tuberculosis, and the Committee on Disposition of Tuberculous Cattle. The Committee on Education and Legislation made a partial report presenting a critical study of experience of certain states in their efforts to deal with this problem. The purpose of this was to present full information for the Commission concerning mistakes, and failures, and comparative successes of communities that have undertaken serious work with tuberculosis.

The Committee on Location of Tuberculosis in Cattle presented their report under such headings as, "Provision for Notification," "Location by Tuberculin Test," "Location of Infected Herds Through Meat Inspection Service," "Most Important Sources of Animal Tuberculosis."

The Committee on Dissemination of Bovine Tuberculosis presented its study under such headings as, "Introduction of Disease into the Herd," "Dissemination by Feeding to Calves," "Dissemination by Contact at Shows," "Dissemination by Placing Healthy Animals in Contaminated Stables," "Dissemination by Transportation of Healthy Animals in Infected Cars," "Dissemination by Pasture Exposure." The discussion on this report gave considerable attention to the problem of tracing back from the killing floor to the infected farm with a view to detecting the diseased herds and concentrating control work as much as possible on diseased herds.

The Committee on Disposition of Tubercular Cattle reported concerning the necessity of accepting tuberculin for diagnosis as a fundamental, the necessity of voluntary co-operation, and the superiority of voluntary co-operation to measures of compulsion. This Committee considered the feasibility of the Bang and Ostertag methods of dealing with tubercular herds under American conditions. It also made recommendations concerning the relation of indemnity to final disposition of carcass, the principle of carcass salvage, the obligatory disposal of all clinical cases, and a study of the conditions which should determine the disposition of reacting cattle.

A very considerable amount of discussion on this report was given to the question of remuneration for owners and particularly as to whether this should be regarded as a temporary or as a permanent provision in tuberculosis control work. A number of members held that it must necessarily be considered as a useful preliminary and temporary measure.

Careful consideration was given to the possibility of making either the Ostertag or Bang method of dealing with tuberculosis in the herd, or a combination of the two, feasible in America and Canada for grade herds. This is along the line of finding some method more economical than slaughter for as many herds as possible.

The next meeting of this International Commission will be held in Ottawa.

CORRESPONDENCE.

BROOKLYN, N. Y., January 17, 1911.

Dr. A. T. Bristow,
234 Clinton Street, Brooklyn, N. Y.

DEAR DOCTOR:

The self-made slaves, physicians and surgeons, as per your editorial "A Good Example" in the NEW YORK STATE JOURNAL OF MEDICINE, January, 1911, and *in re* of medical service corporations, receive from $1 to $1.25 per year for each family; $1.25 is for the best physician of the section. There must be a number of these corporations and at least some of twelve years' existence. In this period of time I have been approached a score of times by different persons, presumably representing different corporations, and in each instance they found out that the distance between my office chair and the entrance door was too short to be measured. They claim that a physician having 300 families can make about $200 or $300 monthly, and this *by carrying coloring tablets* always along with him and preparing two different coloring solutions each at 25 cents would give him 50 cents per call extra. These corporations employ male and female solicitors that conscientiously do the work by entering every family of every section, and to keep on calling till they secured subscriptions. Outside of the said solicitors there are females whose only duty is to control and criticise the physician's work and do all in their devilish power to induce the people to call the physician in even when there is no necessity. In this way they keep their subscribers under full control. I have been informed that it is a bit too often that the poor, under-contract physician gets a good rubbing and shampooing from the people composing the corporation or from the little non-short tongued female supervising his work, or from members of subscribed families that are under the impression that the physician is in waiting under their own beds and it only requires a whistling to jump at the bedside. In my section and in other sections where I enjoy good practice of the poor and even middle-class of people, I believe a full 70 per cent. or more were subscribers of these corporations, but I have been very successful in reducing it to less than one-half that number, and if my colleagues would act accordingly and harmoniously only the remembrance of such actual condition would be left. But the medicine of to-day is rendered a real bagatelle and too saturated of prostitution—physicians going from house to house soliciting business either themselves directly or through some others. Physicians offering surgical operations free of charge and charging only for the regular call fee, which in most cases is $1. Physicians engaging themselves for confinement cases for $5 under promises that they will attend anything that might happen or take place within three or six months after confinement. Physicians that make ten or fifteen calls, at the end of which they confound themselves and others in thanks and bows if a $5 bill is offered them. How can they live? How can they exist? I fail to understand. I should consider that the buying and selling of one dollar of newspapers would be more profitable and more dignified. Or, rather, an application for a position with the Street Cleaning Department would be less detrimental to the man and to the profession.

Yours truly,
G. MERENNA, M.D.

Medical Society of the State of New York.

DISTRICT BRANCHES.

FIFTH DISTRICT BRANCH.

ANNUAL MEETING, HELD AT SYRACUSE, OCTOBER 19, 1910.

BUSINESS SESSION.

The following officers were elected to serve for one year following the Annual Meeting of the State Society:

President—Arthur A. Gillette, Rome; Vice-President—Conway A. Frost, Utica; Secretary—Frederick H. Flaherty, Syracuse; Treasurer—Henry A. Hoyt, Watertown.

The Secretary read the following amendments to the by-laws, which were adopted by the delegates at their meeting previously held:

Amend the by-laws relating to election of officers, Chapter II, Section 2, by striking out the words "By the duly elected delegates from the County Societies" at the end of the section.

Amend the by-laws, Chapter II, Section 3, by substituting the words, "At the close of the annual meeting of The Medical Society of the State of New York," in place of on January 1st of each year.

Amend the by-laws by striking out Chapter III.

Chapter IV then becomes Chapter III.

Chapter V becomes Chapter IV.

Chapter VI becomes Chapter V.

Chapter VII becomes Chapter VI.

These amendments, in accordance with Chapter VII of the officers of the branch and the presidents of the Delegates for one year.

The effect of these amendments practically does away with the House of Delegates in the Fifth District Branch and leaves the officers to be elected by the general meeting of the branch.

It was moved, seconded and carried, that the time and place of the next meeting be left to the Executive Committee, which, according to the by-laws, consists of the officers of the branch and the presidents of the county societies constituting the branch.

The President read his address in which he discussed the present division of the State into sections, and in conclusion of his address, Dr. Sears, of Syracuse, moved that a committee of one to be selected be appointed by the chair, from each county in the Fifth District Branch, to consider the advisability of re-districting the State. The President appointed the following as such committee:

N. Jacobson, of Onondaga County; W. C. Todt, of Oswego County; T. H. Farrell, of Oneida County; LeR. W. King, of Lewis County; E. W. Rude, of Herkimer County; G. D. Gregor, of Jefferson County.

This committee subsequently reported in favor of leaving the districts as they are unless some county requests to be changed, and expressed a desire to have Madison County included in the fifth district.

On motion of Dr. Heffron this report was adopted as the desire of the Society.

Dr. Jacobson moved that any physicians, members of counties not in the branch, who were present, be invited to participate in the meeting. Carried unanimously.

SCIENTIFIC SESSION.

"Common Sense in the Rearing of Children," C. A. Frost, M.D., Utica. Discussed by F. M. Miller, M.D.

"Recognition and Treatment of Acute Mastoiditis," G. H. Rockwell, M.D., Syracuse. Discussed by Drs. T. H. Farrell and N. Jacobson.

"The Relation of the General Practitioner to Refraction of the Eye," T. H. Farrell, M.D., Utica. Discussed by Drs. S. B. Craton, H. B. Nichols and T. H. Halsted.

"Psychology of Tuberculosis," W. H. Kidder, M.D., Oswego.

"Tuberculous Peritonitis," N. Jacobson, M.D., Syracuse.

"Treatment of Diffuse Peritonitis," G. D. Gregor, M.D., Watertown. Discussed by Drs. G. B. Broad, D. H. Murray, T. L. Deavor and N. Jacobson.

"The Abuse of Obstetrical Forceps," J. M. H. Rowland, M.D., Baltimore. Discussed by Dr. T. Bannan.

"Some of the Nervous and Mental Effects of Chronic Masturbation Among Boys," C. Burnstein, M.D., Rome.

"Abdominal Pains and Its Diagnostic Significance," L. Kast, M.D., New York.

"The Sero-diagnosis of Syphilis Using the Noguchi System. Results in a Series of Cases," W. A. Groat, M.D., Syracuse.

"The New Treatment of Syphilis (Ehrlich-Hatta), Observations and Results," H. L. Elsner, M.D., Syracuse.

"Surgery of Neurasthenics," W. E. Ford, M.D., Utica.

"Parkinson's Disease," Smith Baker, M.D., Utica.

"Some Observations on the Colon," C. E. Coon, M.D., Syracuse.

COUNTY SOCIETIES.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

Regular Meeting held at New York, January 23, 1911.

A stated meeting of The Medical Society of the County of New York was held at the New York Academy of Medicine, 17 West Forty-third Street, on Monday evening, January 23, 1911. There were 180 members present and the program was as follows:

Twelve new members were elected and sixteen brought before the Society for its final action at the February meeting.

Dr. Rosalie S. Morton read a very interesting report on the work of the Public Health Education Committee. Under New Business Dr. Eden V. Delphey offered a resolution, the purpose of which was the formation of a committee to educate the public through the lay press.

After discussion the resolution was referred to the Committee on Public Health to report back to the Society.

The Comitia Minora recommended the following resolution, which was indorsed by the Committee on Public Health, Dr. John H. Huddleston, Chairman.

Whereas, It is reported by the Director of Physical Training of the Department of Education of the City of New York, that the reduction in appropriation for the Department of Education for 1911 places the Board of Education under the necessity of curtailing one or more of the special branches, among which physical training is placed; be it

Resolved, That The Medical Society of the County of New York records its opinion that judicious physical training, including out-of-door exercises, and careful attention to hygiene, is of great medical importance in developing vigorous health among school children of this city, and especially increasing their resistance against tuberculous infection, and be it therefore, further

Resolved, That the physical and hygienic training of the children of the public schools should be among the last elements of education to be limited. On motion duly seconded, it was carried.

Dr. Floyd M. Crandall presented the following preamble and resolution, together with explanatory notes:

Whereas, A communication has been received from The Medical Society of the County of Chemung, advocating the discontinuance of the Tri-State Medical Directory, and such communication has been sent to the other County Medical Societies of the State, be it

Resolved, That The Medical Society of the County of New York strongly disapproves of any effort to discontinue the said Directory and instructs its Delegates to the Medical Society of the State of New York to strenuously oppose any such effort.

Resolved, That a copy of these resolutions, together with the following reasons therefor, be sent to the Secretary of the various County Medical Societies of the State and to the Officers and Members of the House of Delegates.

REASONS FOR THE ABOVE ACTION.

First.—The Directory is of supreme importance to the physicians of the cities, which furnish an overwhelming majority of the membership of the State Society. New York County alone furnishes over 2,300 members, or one-third of the membership of the State Society, while the membership of the County Medical Societies of New York City, which includes the counties of New York, Kings, Queens, Nassau, and Richmond, is 3,374.

Second.—Abolishing the Directory would cause a loss of membership in the large cities, with a corresponding loss of income to the State Society, which would more than balance the expense of publication.

Third.—In addition to its local use, the employment of the Directory is reciprocal between city and country practitioners. The city physician uses it as a guide in referring patients to practitioners in the summer and at other times. The country practitioner uses it in the selection of consultants or operators when seeking a specialist. The physician of the summer-resort portions of the State may not be fully aware of the frequent use of the Directory made by city physicians in advising the tens of thousands of people who leave the cities during hot weather.

Fourth.—The Directory has proved to be the most efficient collector that can be employed by the large societies, as the members are anxious to appear in good standing. In the year 1909, there were but 2 per cent. of delinquents in the whole State, a remarkable showing, due in large measure to the Directory. The star before a name is regarded as a badge of honor, and is no mean asset to a practitioner.

Fifth.—The Directory is regarded as authoritative by life insurance companies, boards of health, and certain business concerns, and is used by them in looking up qualified physicians in both city and country. In fact, certain companies have refused to appoint physicians whose names do not appear in the Directory.

Sixth.—The Directory is a most potent weapon against quackery. A registered list of the physicians of the State is of the utmost importance. Such lists will not be kept in many counties unless some society makes it their business to see that the registration law is enforced. Experience shows that most county societies, as well as the county clerks and district attorneys, are absolutely negligent of their duty in this direction. The yearly requirements of the Directory result in the enforcement of this vital law. When the publication of the Directory was begun by the State Society, over 500 physicians were found to be practicing in the State who were not registered. The Directory has worked a revolution in this regard. The absence of the name of a practitioner from the Directory lists is now ample warrant for investigation as to his legal status.

Seventh.—Under modern methods of conducting the business of medical societies, where the society is of sufficient size to prevent their personal acquaintance with the membership, the Directory is an absolute necessity to its officers.

Eighth.—The expenses charged to the Directory may be misleading in some particulars. The State Society must keep extensive records and card indexes, at large annual expense whether the Directory is published or not. In other words, almost all the expensive data used in the Directory must be collected and made available, even if not printed. The expense of printing and distribution is, in a measure, counterbalanced by income from advertising and sales. The roster of the State Society would certainly have to be published annually at a considerable expense.

Ninth.—The County Medical Societies standing alone as *units* are with few exceptions bodies of but slight influence. Banded together, they make up a powerful organization, the benefits of which are shared

by all the component parts. A spirit of fellowship and reciprocity should animate each unit, for the welfare of some must promote the welfare of all. The New York County Society believes that among the material benefits derived from our present organization, the Directory is one of the most important, and is convinced that its discontinuance would be a grave misfortune to the profession of New York State, even to those few physicians who may personally have but rare occasions to consult it. Its indirect value to every physician is great and cannot be measured by the number of times he opens it.

On motion duly seconded the resolutions were unanimously endorsed.

Dr. John E. Weeks, the retiring President, addressed the meeting and handed the gavel to Dr. James F. McKernon, the President-Elect, who also made a brief and interesting address.

The first paper of the evening was:

"The Selection of Patients for a Tuberculous Sanatorium, with Special Reference to the Otisville Sanatorium," by Charles B. Slade, M.D.

The paper was discussed by Drs. James A. Miller, Linsly R. Williams, Edward D. McSweeny, House Physician of the Sanatorium, Woods Hutchinson, Alfred Meyer, Lazarus Zwisohn, Malcolm C. Rose, De Lancy Carter and Paul Paquin, of Asheville, N. C.

Dr. Henry G. Watson read a paper on "A Morning at Bier's Clinic in Berlin," which was discussed by Willy Meyer, M.D.

MEDICAL SOCIETY OF THE COUNTY OF FRANKLIN.

Annual Meeting at Malone, December 13, 1910.

The Comitia Minora met at 10.45 A. M.

The Society was called to order at 11 o'clock by the President, Dr. E. R. Baldwin.

The following officers were elected for the ensuing year:

President, Albert H. Garvin, Raybrook; Vice-President, Elisha A. Rust, Moira; Secretary and Treasurer, George M. Abbott, Saranac Lake.

The Secretary's and Treasurer's reports were read and accepted as read.

SCIENTIFIC SESSION.

President's Annual Address, "Laboratory Methods in Diagnosis and Illustrative Cases," E. R. Baldwin, M.D., Saranac Lake.

Dr. Baldwin dwelt at length on the advantages and urgent need of a county laboratory. His paper was discussed by Drs. Dolphin, Wardner and Grant, the Committee on Laboratory, and Dr. E. M. Austin from a supervisor's standpoint. Dr. Austin, the Supervisor from Tupper Lake, said that the Board of Supervisors has a great deal on its hands this year with the matter of good roads and other urgent matters and he thought nothing definite in regard to a laboratory could be done at the present time, but that next year, in connection with the City Hospital which is to be established, he had no doubt that a laboratory could be established and well equipped. All the members of the laboratory committee were of the same opinion.

"Placenta Previa," W. H. Harwood, M.D., Chasm Falls.

"Maternal Impressions," W. A. Wardner, M.D., St. Regis Falls.

"The Detection of Diphtheria Bacillus Carriers in School," S. F. Blanchet, M.D., Saranac Lake.

The subject of county laboratory was again taken up and after some discussion a resolution was passed to add Dr. E. A. Rust, the Supervisor from Moira, and Dr. E. M. Austin, the Supervisor from Tupper Lake, to the Laboratory Committee.

MEDICAL SOCIETY OF THE COUNTY OF MONTGOMERY.

Annual Meeting held at Fonda, December 14, 1910.

The following officers were elected for the ensuing year:

President, Edmund F. Bronk, Amsterdam; Vice-President, James W. White, Fonda; Secretary, William R. Pierce, Amsterdam; Treasurer, Charles F. Timmerman, Amsterdam. Censors, C. Stover, Amsterdam; C. E. Congdon, Fort Plain; D. Ayres, Fort Plain. Delegate to State Society, H. M. Hicks, Amsterdam.

MEDICAL SOCIETY OF THE COUNTY OF ORANGE.

Annual Meeting, January 3, 1911.

The following officers were elected for the ensuing year:

President, Henry L. Winters, Cornwall-on-Hudson; Vice-President, Raphael F. Medrick, Port Jervis; Secretary, E. C. Thompson, Newburgh; Treasurer, H. J. Shelley, Middletown. Censors: H. B. Swartwout, Port Jervis; M. C. Conner, Middletown; J. T. Howell, Newburgh. Delegate to State Society: William J. Carr, Newburgh. Committee on Public Health: T. D. Mills, C. W. Dennis, T. O. Vanamee, and F. E. Gessner. Committee on Legislation: W. L. Cuddeback, C. E. Townsend, D. B. Hardenbergh, and B. C. Hamilton.

MEDICAL SOCIETY OF THE COUNTY OF LIVINGSTON.

Regular Meeting at Mount Morris, January 3, 1911.

SCIENTIFIC SESSION.

"Some Interesting Obstetrical Cases," A. E. Leach, M.D., Mt. Morris.

"Outlines in Evolution," E. C. Perry, M.D., Avon.

"A Case of Brain Tumor," A. P. Reed, Geneseo.

"Malignant Disease of the Abdomen," J. P. Brown, Nunda.

MEDICAL SOCIETY OF THE COUNTY OF WARREN.

Annual Meeting held at Glens Falls, January 11, 1911.

The following officers were elected:

President, Thomas H. Cunningham, Glens Falls; Vice-President, Gilbert H. Aldrich, Stony Creek; Secretary-Treasurer, Morrison L. Haviland, Glens Falls. Censors: J. M. Griffin, Warrensburg; A. McKee, Glens Falls; C. K. Burt, Lake George. Delegate to State Society: J. M. Griffin, Warrensburg. Two new members were elected.

SCIENTIFIC SESSION.

President's Address, G. A. Chapman, M.D., Glens Falls.

"Diabetes Mellitus," H. E. Clark, M.D., Glens Falls.

"Acute Intestinal Obstruction," C. R. Hoffman, M.D., Glens Falls.

"Résumé of Vaccine Therapy," V. D. Selleck, M.D., Glens Falls.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

Regular Meeting at Schenectady, January 12, 1911.

The following resolutions were adopted:

Whereas, We have heard with sorrow and regret of the sudden death of one of our members, Dr. R. Burdette Hoyt, and

Whereas, We feel that in his death the city has lost an upright citizen and the Medical Society an esteemed member, and

Whereas, It is appointed unto all men once to die, so we, his confrères, humbly bow to the Divine will and

commend his spirit unto Him who gave it, be it

Resolved, That we who have been associated with him for several years desire to express our appreciation of his life and to extend to his relatives and friends our sincere sympathy in their bereavement.

Resolved, That a copy of these resolutions be sent to the relatives, that they be published in the newspapers of the city, and be spread on the minutes of the Society.

W. W. Goddard, M.D.,
H. G. Hughes, M.D.,
C. F. Clowe, M.D.

THE SUFFOLK COUNTY MEDICAL SOCIETY.

Annual Meeting at Riverhead, October 27, 1910.

The following officers were elected for the ensuing year:

President, William A. Hulse, Bayshore; Vice-President, Hugh Halsey, Southampton; Secretary, Frank Overton, Patchogue; Treasurer, Barton D. Skinner, Greenport. Censors: S. R. Corwith, Bridgehampton; Thomas C. Lippman, Sag Harbor; Clarence A. Baker, Yaphank. Delegates to State Society: M. B. Heyman, Central Islip; S. B. Allen, Riverhead.

The following resolution and fees were adopted by the Society:

Resolved, That it be considered unprofessional for any member of this Society to make a contract to do professional work for lodges and societies after the expiration of contracts already made.

MEDICAL FEES.

Minimum Rates Adopted by the Suffolk County Medical Society.

Office Call (medicine optional), $1.00; Day Visit, $1.50; Night Call 9 P. M. to 6 A. M., $2.00; Advice Involving Legal Issues, $10.00; Urinalysis, $1.00; Vaccination, $1.00; Re-Vaccination, 50 cents; Disability Certificates, $1.00; Advice over Telephone, $1.00; Confinement (normal), $15.00; Double Operation for Adenoids and Tonsils, $15.00; Reducing Hernia by Taxis, $5.00; Passing Sound or Catheter double the usual house or office fee.

MEDICAL SOCIETY OF THE COUNTY OF JEFFERSON.

Annual Meeting, January 12, 1911.

The following officers were elected for the ensuing year:

President—George E. Sylvester, Black River; Vice-President—Frederic R. Calkins, Watertown; Secretary—Charles E. Pierce, Watertown; Treasurer—Joseph D. Olin, Watertown; Censors—H. A. Hoyt, Watertown; E. A. Chapman, Watertown; I. M. Meader, Watertown; W. A. Vincent, Three-Mile-Bay; E. E. Eddy, Redwood; Delegates to State Society—F. B. Smith, Watertown; I. M. Meader, Watertown; Delegate to Fifth District Branch—R. L. Gray, Clayton.

Resolutions were adopted expressing deep sorrow at the death of Dr. J. D. Spencer, a most active member of the State and County Societies, and who had been honored by having been President of both State and County Societies.

MEDICAL SOCIETY OF THE COUNTY OF YATES.

Annual Meeting, January 3, 1911.

The following officers were elected for the ensuing year:

President, Charles E. Doubleday, Penn Yan; Vice-President, Edward M. Scherer, Penn Yan; Secretary, E. Carlton Foster, Penn Yan; Treasurer, John A. Conley, Penn Yan. Censors: J. H. Wilkin, Rushville; E. M. Scherer, Penn Yan; G. E. Welker, Dresden; F. M. Chaffee, Middlesex. Delegate to State Society: H. W. Matthews, Penn Yan. Alternate: C. M. S. Van Dyke, Himrod.

MEDICAL SOCIETY OF THE COUNTY OF WYOMING.

Regular Meeting at Castile, January 10, 1911.

A resolution was adopted asking Governor Dix to recommend an appropriation for the "Study of Epidemic Poliomyelitis."

SCIENTIFIC SESSION.

"Differential Diagnosis of Disease of the Prostate," Henry Adsit, M.D., Buffalo.

"Interpretation of Abdominal Pain," Lawrence Hendee, M.D., Buffalo.

"Talk on 'Internal Medicine,'" J. E. Walker, M.D., Hornell.

RICHMOND COUNTY MEDICAL SOCIETY.

Annual Meeting, December 14, 1910.

The following officers were elected for the ensuing year:

President, Frederick Coonley, West New Brighton; Vice-President, Charles E. Pearson, Tompkinsville; Secretary-Treasurer, Edward D. Wisely, Port Richmond. Censors: Walker Washington, Tottenville; Newton D. Chapman, Port Richmond; Alfred H. Thomas, New Brighton. Delegate to State Society: E. S. Rimer, Quarantine.

MEDICAL SOCIETY OF THE COUNTY OF WESTCHESTER.

Annual Meeting at White Plains, November 15, 1910.

BUSINESS SESSION.

The meeting was called to order at 8.45 P. M., President Peck presiding. Twenty-seven members were present.

Minutes of the previous meeting were read, corrected and approved.

The President announced that the polls for election of officers would be open for one hour. He appointed Drs. Eddy and Zacharie to act as tellers.

After a recess of five minutes the tellers reported the official ballot to be unanimously elected, as follows:

President—S. Oscar Myers, Mount Vernon; Vice-President—William D. Robertson, Mount Vernon; Secretary—Edward W. Weber, White Plains; Treasurer—Samuel B. Pray, New Rochelle; Censors—A. F. Currier, G. A. Peck and C. C. Zacharie; Delegates to State Society—E. H. Codding, New Rochelle, and J. W. Smith, Bronxville; Chairman of Public Health Committee—J. C. Todd, Tarrytown; Chairman of Legislation Committee—H. E. Smith, Mount Vernon.

Dr. Eddy reported progress for the Committee on Legislation.

Dr. Chase reported for the Committee on Drug Stores, stating his inability to obtain evidence of illegal acts of the druggists, because they had been warned. A list of druggists' names was sent to Albany. It was returned, owing to lack of authority unless accompanied with evidence.

Dr. Shipman reported for the Committee on County Laboratory. It was the opinion of the committee that White Plains should be the location; that $3,000 be appropriated for its equipment, $6,000 for salaries of pathologists and assistant, and $1.000 for sundry help; also $1,000 for maintenance the first year, exclusive of rent.

It was resolved that Dr. Chase be appointed a committee of one to arrange for a meeting with similar committee from Board of Supervisors.

Supervisor Millard addressed the Society, asking for an expression of opinion from members as to the scope of the laboratory. Discussed by Drs. Shipman, Eddy, Meyers and Chase.

It was moved and carried that the report be accepted and its recommendations adopted.

Moved and carried that each member see or write to

the Supervisor urging the recommendations in this report.

President Peck announced the appointment of Mr. Walter C. Otto, of New Rochelle, as Counsel for the Society.

Dr. Eddy reported for the Milk Commission. He announced the appointment of Dr. Drake, of New Rochelle, as Inspector of Farms, and Dr. Morrison, of White Plains, as Veterinarian. The report of the committee was adopted.

Obituary notices were read by the Secretary of William A. Bell, M.D., of Yonkers, by Dr. David John; Stephen Frost Horton, M.D., of Peekskill, by Dr. Charles C. Knight, and Dr. Lewis, of New Rochelle, by Dr. R. C. Eddy.

The amendment to increase the annual dues to $2 per year was adopted.

The amendment to charge each new member an initiation fee of five dollars ($5) was rejected.

The amendment to Chapter XIII, Section 1, changing third and fourth lines to read "at any regular meeting"; and the sixth and seventh lines to read "at any regular meeting at least two months preceding," was adopted.

The retiring President addressed the Society, reviewing the year's work, advising a more concerted effort to increase the membership of the Society, and more active interest in the government of the county. Discussed by Drs. Eddy and Meyers.

The secretary was instructed to send a letter of sympathy to Dr. Irvine, of Ossining, who was injured in an automobile accident.

MEDICAL SOCIETY OF THE COUNTY OF CHAUTAUQUA.

Annual Meeting at Jamestown, December 13, 1910.

BUSINESS SESSION.

The following officers were elected for the ensuing year:

President—Earl A. Scofield, Bemus Point; First Vice-President—Henry A. Eastman, Jamestown; Second Vice-President—George E. Smith, Fredonia; Secretary-Treasurer—J. William Morris, Jamestown; Censors—E. M. Scofield, Jamestown; George F. Smith, Falconer, and V. M. Griswold, Fredonia; Delegate to State Society—Edgar Rood, Westfield; Alternate—F. C. Rice, Ripley; Committee on Legislation—F. C. Rice, Chairman; George E. Smith, and C. H. Waterhouse; Committee on Public Health—J. J. Mahoney, Chairman; L. C. Green, and H. S. Edmonds.

SCIENTIFIC SESSION.

"Angina Pectoris," Edgar Rood, M.D., Westfield.

"Tuberculin Therapy," F. C. Rice, M.D., Ripley.

"Stenosis of the Larynx in Children and its Treatment," Ross M. Bradley, M.D., Jamestown.

"A Study of the Social Evil," W. J. Pennock, M.D., Jamestown.

"A Report of the Typhoid Epidemic in Jamestown," J. J. Mahoney, M.D., Jamestown.

MEDICAL SOCIETY OF THE COUNTY OF CHENANGO.

One Hundredth Annual Meeting at Norwich, January 10, 1911.

The following officers were elected for the ensuing year:

President—Charles W. Chapin, Greene; Vice-President—Anna White-Marquis, Norwich; Secretary—Paul B. Brooks, Norwich; Treasurer—James B. Drake, Norwich; Delegate to State Society—Paul B. Brooks, Norwich; Alternate—George D. Johnson, Oxford.

Section 8, Chapter II of the by-laws ("When a member removes from the State of New York permanently, he shall cease to be a member, etc.") was repealed. Section 1, Chapter IX was amended to read: "The annual meeting shall be held at Norwich on the second Tuesday in December."

Resolutions were adopted at the suggestion of the Buffalo Academy of Medicine, requesting the Governor and Legislature to look to the appropriation of a suitable sum of money to be used in the investigation of epidemic poliomyelitis.

SCIENTIFIC SESSION.

"Prostatic Troubles," Wm. L. Wallace, M.D., Syracuse.

"Treatment of Diabetes Mellitus," Wm. D. Alsever, M.D., Syracuse.

"Appendicitis from the Standpoint of the General Practitioner," Thos. F. Manley, M.D., Norwich.

MEDICAL SOCIETY OF THE COUNTY OF ALLEGANY.

Regular Meeting, Held at Cuba, January 12, 1911.

BUSINESS SESSION.

The following officers were elected for the ensuing year:

President—Edith M. Stewart, Hume; Secretary-Treasurer—Chauncey R. Bowen, Almond; Censors—F. E. Comstock, Wellsville; F. E. Howard, Friendship; L. C. Lewis, Belmont; A. J. Remington, Whitesville; W. O. Congdon, Cuba.

The following resolutions were passed:

Whereas, The prevention of infectious disease is a matter in which the public is directly interested, both from a humanitarian and an economic standpoint, and,

Whereas, Modern laboratory methods of examination is one of the necessary means of prevention of infectious disease, which is not available to the inhabitants of the rural districts, through private sources, and,

Whereas, The State Department of Health urges the establishment in each county of a laboratory for the benefit of the people, therefore be it

Resolved, By the Medical Society of the County of Allegany, in annual meeting assembled, that The Honorable Board of Supervisors of the County of Allegany be respectfully asked to provide, at its next annual session, for the establishment and maintenance of a county bacteriological laboratory.

That all examinations that are to be made free shall be approved by an advisory board to be approved by the Medical Society of the county. That the laboratory shall be equipped to examine sputum, blood, urine, pus, including gonorrhea, water, milk, and pathological specimens. Believing that this will be a profitable investment of the public funds, your petitioner will continue thus to pray.

SCIENTIFIC SESSION.

"A Plea for Doctors not to Resort to Artificial Feeding until They Have Tried to Help the Mother Nurse Her Child," F. C. Ballard, M.D., Rushford. Discussion opened by N. F. Fuller, M.D.

"Plaster of Paris as Surgical Dressing," H. F. Gillette, M.D., Cuba. Discussion opened by G. W. Witter, M.D.

MEDICAL SOCIETY OF THE COUNTY OF ERIE.

Annual Meeting, December 19, 1910.

The meeting was called to order by the President, Grover W. Wende.

The following officers were elected for the year 1911:

President—Daniel V. McClure, Buffalo; First Vice-President—Thomas H. McKee, Buffalo; Second Vice-President—Frank A. Helwig, Akron; Secretary—Franklin C. Gram, Buffalo; Treasurer—Albert T. Lytle, Buffalo; Censors—J. H. Grant, A. G. Bennett, F. E. Fronczak, L. Hendee, and G. L. Brown; Delegates to State Society—J. H. Pryor, Buffalo; F. C. Busch, Buffalo; Edward Clark, Buffalo; G. J. Eckel, Buffalo, and Eli H. Long, Buffalo; Chairman Committee on Legislation—F. Park Lewis, Buffalo; Chairman Committee on Public Health—Henry R. Hopkins, Buffalo; Chair-

man Committee on Membership—Charles A. Wall, Buffalo.

Twenty-six new members were elected, making a total of 166 new members admitted during the year 1910.

A resolution was adopted instructing the delegates to the State Society to oppose the proposed amendment to the constitution of the State Society providing for active and associate members.

Dr. Grover W. Wende delivered his presidential address.

Dr. John H. Grant, Chairman, Board of Censors, reported twenty prosecutions in court for illegal practice of medicine, besides many investigations during the year 1910; $500 in fines has been imposed, $400 of which had been paid to the Society, leaving $100 still to be adjusted and paid. Thus, the Board of Censors, in prosecuting these cases, has been self-supporting, requiring no financial aid from the Society.

Dr. F. Park Lewis, Chairman of the Committee on Legislation, reported that, through misunderstanding, the County and State Societies, in certain legislation last year, had been opposed to each other, and offered a resolution that the House of Delegates of the State Medical Society be requested to devise some plan of concerted action to secure desired legislation in future.

Dr. Lewis also offered a resolution that the House of Delegates of the State Society direct the Legislative Committee to investigate concerning the large percentage of obstetrical cases, in cities, attended by unlicensed, untrained women, and that such committee report to the Society a draft of a law for licensing and controlling midwives, etc.

Dr. Irving M. Snow offered a resolution that the New York State Commissioner of Health be requested to conduct an investigation of epidemic poliomyelitis and that he request the State Legislature to appropriate a sufficient sum of money for that purpose.

Dr. Henry R. Hopkins, Chairman of the Committee on Public Health, called attention to the low standard of requirements for admission to the ranks of the medical profession in this State, and a resolution was adopted calling the attention of the State Society to this important subject and requesting that suitable steps be taken to raise the standard.

Dr. John H. Pryor, Chairman of a special committee on "Division of Fees," read the following report:

REPORT OF THE COMMITTEE APPOINTED BY THE ERIE COUNTY MEDICAL SOCIETY TO INVESTIGATE THE "DIVISION OF FEES, AND ITS CAUSES AND REMEDIES."

At a meeting of the Erie County Medical Society held February 21, 1910, Dr. M. D. Mann presented a paper entitled "Dividing Professional Fees." The address was fully discussed and a resolution was unanimously adopted directing the President to appoint a committee to investigate the entire subject, including the causes and possible remedies. In obedience to such instructions a committee was appointed and respectfully reports as follows:

Frequent meetings have been held and the matter assigned us has received careful investigation and consideration. With the object of securing co-operation and information from the profession, a circular letter containing twelve questions was sent to each member of the Society and a reply requested. The response revealed disappointing apathy and lack of interest in problems which vitally affect the welfare, standing and ideals of the medical profession. About 540 circulars were sent and 31 replies received. Attention is simply directed to this demonstration of indifference and no comment ventured. The result of the inquiry revealed a practically unanimous agreement that the chief causes of commercialism and its attendant abuses were, overcrowding of the profession and too low a standard of education. Your committee has sought information wherever it could be obtained and has tried to arrive at definite conclusions after mature deliberation.

Dr. Mann's Charges Sustained.

It has been found that Dr. Mann's statements and charges were true—that the practice of dividing fees or giving of commissions by some surgeons to physicians has existed in this city for several years, and that the exposure and criticism of the abuse was justified. We thoroughly approve acquainting the profession with the facts concerning this vicious and dangerous innovation, and favor warning the public of the unhappy results which will follow its continuance or increased prevalence.

Secret Methods Employed.

The division of fees has been accomplished by numerous methods. All of them are more or less adroit, deceitful and dishonest. The principal effort has been directed to provide secrecy. In the course of time some operators have become bolder than others and have gradually converted the practice of surgery into a traffic of operating on commission. No one publicly justifies the commercial bargain. If defended privately the excuse or argument is cynical, shifty, selfish or sophistical. After examination from every side there is no honest course except emphatic and unequivocal condemnation of this rather new species of hidden graft. No matter how cleverly the division of a fee is accomplished, it is done almost invariably without the knowledge of the patient. The person who pays for an operation does not know that part of the amount, which has varied from 25 to 50 per cent., occasionally goes to the physician who recommended the operator. The physician and the surgeon are supposed to render their individual bills, and the afflicted person is entirely ignorant of the "gentlemen's agreement" or "community of interest," which has been introduced from the realms of high finance and legal honesty. The real purpose of the deal is to encourage the physician to send his patients where he can obtain a share of the money paid for relief or attempted relief. The surgeon may be highly competent or he may not, and the physician may be influenced by financial encouragement. Any way, the performance must pay because it has flourished and been profitable at times when other methods would probably have failed. At times, the demands of the physicians have been quite high and some of the prosperous merchants in surgery may begin to wonder if they have not created a Frankenstein.

Pernicious Results of Practice.

The practice may lead to unnecessary operating and junk surgery through increasing zeal to be busy and establish a false measure of success by the amount of income derived from business instinct and sagacity. The untrained and inexperienced cutter who has learned that there is money in operating, which is lost by the physician, is encouraged to obtain work which should go to the experienced skillful surgeon who clings to the traditions and ideals of the profession; and will not cringe, stoop, or barter to obtain his earned and rightful privilege of employment. The fee may be increased or stretched by agreement to provide for distribution of the spoils, and altogether there is something about the whole wretched proceeding which smells of the rebater, the promoter and the greed for disguised plunder.

Matter Should be Aired.

Some members of the profession keenly regret and reprobate any public exposure and discussion of the subject and fear that the public will become suspicious of all the members of the profession. The answer is simple: it is time the people knew of the practice and be given an opportunity to penetrate some of the mysteries surrounding the sick bed. In time the intelligently suspicious may distinguish between types of doctors and exhibit a tendency to investigate conditions quite puzzling to-day.

There is at least one profession that should be clean and have the confidence and trust of the public. Whatever may be its shortcomings in ability to help or save, the effort and purpose must be free from the taint of

sordid commercial deals dependent upon human suffering and woe. There is very often no more complete picture of helplessness than the sick yearning for relief and not knowing where to seek needed succor. If abuses exist the profession must decide whether it will abolish them or allow them to prevail until the public is compelled to undertake the task. Your committee believes that the medical profession should perform the disagreeable work, and that an element is not afraid to expose or denounce iniquities which tend to degrade those who decently follow a noble calling.

Local Situation.

Honesty and a sense of duty compel us to call attention to the local aspects of this question and confess that an evil has existed. Surgeons can apply a prompt remedy if they will, by simply stopping the practice. The committee has learned with pleasure and gratification that practically all of the operators in this county have signed an agreement that they will not indulge in any division of fees, and that any violator of the agreement will submit to a penalty which may be fixed by the Erie County Medical Society. It remains for the Society to determine the value of this agreement and what steps shall be taken to insure enforcement. The appointment of a committee to act as a court of honor, and consider complaints, examine evidence, and devise methods of punishment—when acts in violation of certain standards of professional dignity are perpetrated—is certainly worthy of careful consideration. We are sadly deficient in safeguards relating to professional conduct unless flagrant crime supplies a chance for decisive and wholesome action. The legal profession has more efficient control and well-defined, direct methods of procedure when they are employed. At present the purpose is to be suggestive in the hope of arriving at some consideration of this theme by the Society or its proper committee. If no other penalty can be found at this time, publicity in some form deserves attention as a possible corrective instrument. Something should be done to discriminate between the man whose influence is thoroughly damaging to the profession, and the one who helps to make it reputable and worthy of the highest admiration and confidence.

Overcrowded Profession Principal Cause.

Any study of the causes and possible remedies of forms of commercialism, and especially of the division of fees, must be considered in a broad way. The evils are not local but general, widespread and probably national in scope. Other cities and localities throughout the country report that the same conditions are prevalent, and have developed in recent years. It would be misleading and unjust to search for causes or seek for explanations in this region when we fully realize that we are dealing with an epidemic and not an endemic variety of infection. In classifying causes the chief factor seems to be the unfortunate and unnecessary overcrowding of the medical profession. Those who have studied this phase of the problem arrive at the conclusion that about one-third, or at most one-half, of the present number of physicians and surgeons in the populous districts of this country could fulfill all legitimate demands for human relief and secure a competent living. The average income is far below the amount required to permit of a mode of life consistent with the modern practice of medicine. A large proportion of the profession cannot obtain sufficient practice, experience or skill to become proficient. If the number of doctors in this country were diminished by two-thirds, or at least one-half, that proportion to the population would insure adequate work and emolument, and correspond more closely to conditions in other nations.

The lamentable overcrowding has a most deleterious effect upon the profession and the type of men who join its ranks. But the most baneful results will certainly be more keenly felt and appreciated by the public as they are discovered and better understood. At present this nation is in a semi-barbarous state so far as provisions for control of national health is concerned. The full meaning of the conservation of natural resources has not yet been recognized as including human beings. In considering overcrowding no attempt has been made to include the army of new pathies, faddists and variegated assortments of healers, pseudo-scientists, or the old contingent of perennial quacks and nostrum venders. Perhaps in the advance of preventative medicine and medical education we are wasting too much sympathy upon the class "who never considered it necessary to add the incident of learning to the accident of brains." It has been claimed that overcrowding has long existed, and that evidences of many tricks to secure advancement are comparatively recent. There is no time for judicious discussion of the question whether there has been a decline in the moral standards of the profession, and how much any change is due to imitation and the influence of business crookedness and predatory customs which abound in a favorable environment. The important thing is to call attention to the fact that conditions have changed which make the effects of overcrowding more acute, the scramble for employment and a living more intense, and the temptation to resort to shrewd tactics more common and glaring.

Progress of Preventative Medicine.

During the last twenty years, preventative medicine has made gigantic strides. The incidence of illness, particularly of childhood, has undergone a vast diminution, and the general death rate has practically been cut in half. The marvelous advance in surgery has removed a large group of patients from the field of medicine, and new discoveries have shortened the period of illness or changed its course. The tardy awakening to the importance of public health will add more and more force to the crusade against disease.

Contract Practice and Other Evils.

Vicious, dangerous and cheap modes of practice have developed to a surprising extent in latter days. Medical and surgical relief under contract, and stultifying agreements with lodges, societies, benefit associations, etc., and underpaid services to life insurance companies, have demoralized practice among young men and robbed others of just remuneration. These abuses are largely indefensible, delusive to the patient and public, as the results are mostly ineffective, the service superficial and careless, and often of no genuine value. It is only just to the young physician and the public that this increasing abuse should be investigated and fully considered at a future time. There is much harm and humbug in the practice, and the physician should no longer be a tool for crude, cheap work. Positions held by medical men almost invariably yield totally inadequate compensation, and any protest is unavailing because the supply is apparently unlimited. The young practitioner seeks opportunity for experience, and a chance to escape idleness while waiting for employment in a profession where there is little or no room. There are two classes—one seeking the sick to make a living, and another expecting a reference of a patient or a consultation.

Practice legitimately belonging to competent physicians, has been given over to faddists with a squint or kink, largely through the fault of narrow dogmatic members of the medical profession who could not or would not realize that the mentality of a patient required thought and attention, and that exercise of the body or its components was a physiological aid or necessity in treatment.

Hospitals and other institutions have been monopolized or exploited by a few, and some of the hospitals supported by philanthropy are simply hot-beds for fee splitting and commission jobbery. The industry is tolerated and winked at because the new method fills the private rooms. How much revenue can you supply, has occasionally become more essential than, how much

ability and character can you offer, when appointments are considered by trustees, or dictated by the staff.

General Practitioner Underpaid.

The division of a fee is only one abuse. There are many others harder to perceive and reach, and some of them have given an impetus to this method of trading and may perpetuate it. Undoubtedly the inducement of a commission has been extended in a pernicious effort to compete and grasp a share of operative work. Again, it has been used as furtive evidence of sympathy toward the lesser-paid physician. This leads to a consideration of one of the principal contributing factors related to superabundance of doctors and their fees. The cost of living has decidedly increased and the mode of life has undergone a transformation too little appreciated. The fee and the income have not changed in proportion, if at all. Extravagance is the fashion, and the necessities of a progressive physician accumulate each year. He belongs to a class which is struggling along, surrounded by combinations, and the waves of prosperity lose their force before reaching him.

The surgeon and the specialist have educated the public to place a higher value upon their services, and there is force in the contention as a rule. Special skill, experience, long training, responsibility and technique are required, and the qualified surgeon is rarely overpaid. Whether the surgeon who gives away half his fees regards himself as overpaid, is another question. The increase of operators and the lure of the knife because it loosens the purse strings, will soon equalize and distribute opportunity, and lower the rate of compensation. The surgeon has enjoyed halcyon days and deserved many of them, but he will have to guard and discipline the recruits to his guild, or the public will revolt.

Physicians Must Demand Proper Remuneration.

The physician is actually and proportionately underpaid, and it is almost entirely his own fault. If overcrowding prevents the demand for proper remuneration because others will act for less, let him place the responsibility for the overproduction of doctors where it belongs and register his protest not alone for selfish reasons but vastly more, for the benefit of the whole profession and the community. The competition that affects livelihood is keenest and most demoralizing among the mass and not among the few. There is no way by which the public can distinguish between the physician who has spent time and labor to become proficient and one who has not. We have but one degree and it may mean much or little. Nor is there any good reason why the fee of the physician should be rigidly fixed with no reference to the value of service. He should charge for the thoroughness, efficiency, skill, and time employed in his study of an individual case. Many times his diagnosis, advice and treatment are more valuable than surgical interference. The proper examination of a patient has become a problem involving time, wide knowledge, and chemical and microscopic analysis and search, requiring more and more special training and skill. The time has come for the physician to assert his position and claim what he deserves. He should receive his reward openly and not secretly, and resent undervaluation to the patient and not to the surgeon. Let him stand on his own feet and not beg or barter with the surgeon for a hidden share which he hasn't the courage to ask for. Let him seek assistance when he needs it as if he were the patient, and receive it with a clean hand and from a clean hand and preserve a decent opinion of himself and his possibly more-fortunate confrère.

Superabundance of Medical Colleges.

The explanation of the overcrowding in the medical profession will be found in riveting attention upon the character of medical education in this country; and recently an opportunity has been afforded to reflect upon this interesting subject by the publication of the Carnegie Foundation Bulletin, No. 4. It should be read by every member of this Society. This report may be considered intolerant and radical, but a great service has been performed; and the collection of facts based upon investigation will have a tremendous educational value and influence. Already its effect has become manifest, and the supplemental report will probably furnish a guide to action by comparison with European standards. It seems to be true that there are as many medical colleges in this country and Canada as in all the rest of the world. Canada still protects its population from the flood of graduates poured into this country. It also seems to be true that about one-third of the medical colleges in this country could be lifted to a higher modern standard and supply all the doctors needed for an indefinite time and growth of population. The facility and ease with which medical colleges could be established in this country has long been a disgrace. There probably was a time when the proprietary medical school, with all its schemes for profits among a few, was tolerable or even seemed to be necessary. That time has passed and the school of the proprietary type and its self-created professors, will be eliminated. The medical school will ultimately be obliged to cease from depending upon students' fees for support, and liberal funds will be required to furnish the tuition which should be supplied to-day. The connection with a university will be close, true and actual—not spurious or non-existent, and trustees and councils will probably cease to be rubber stamps or respectable, irresponsible nonentities, well described by Dickens.

New Standard of Medical Education Imperative.

Many so-called medical colleges are still proprietary in spite of evasion and strenuous efforts to escape from that category. There are direct and indirect profits, and scrutiny will go deeper and deeper to discover the true purpose and objects of these prolific institutions of learning. Is it not very strange that we have such a prodigal supply of medical colleges and that over-production of the graduates continues unabated, while the professors must know that the oversupply is unnecessary and can't be assimilated? Is it not perfectly plain that doctors are responsible for the superabundance of doctors, and the attendant evils which result from the wholly unnecessary excess? The most wholesome, natural remedy would follow an awakening of the whole profession to their interest and duty in dealing with a national disgrace. The united profession should decide upon the necessity for medical colleges, what status they should have and maintain, what shall constitute a medical education, and what shall be required of a licentiate to practice upon humanity. There should be control of the appointments of professors, and their duties and obligations to those really concerned should be defined. These matters should not be left to a few self-perpetuating and self-constituted faculties who have enjoyed too much power, unrestraint, and domination. National and state supervision and radical reorganization of medical teaching and requirements, is imperative and inevitable.

There is no reason at present why the standard of qualification cannot be raised more rapidly, and the comparison with other countries made less apparent or glaring. The flood of graduates can be checked with safety. It is sophistical to claim that a better class will gradually replace those who are striving to-day. That is the old cry heard with every advance. The real demand is for increased intelligent and stringent legislation and some guarantee that a state license assures true proficiency.

Present State Examination Not Proper Test.

A beginning has been made in this state by extending the power of the State Regents, and providing for a State Board of Medical Examiners. Objections and obstacles had to be overcome before this step was taken, and some good has been accomplished; but an examination for fitness to practice medicine and surgery by present methods must be obviously incomplete

and unsatisfactory to anyone who has given the matter any careful thought. The Regents appoint the examiners. If any plan for selection because of special training or attainments is employed, some of the results are truly surprising. A recent excellent appointment deserves warm commendation. The schools, dogmas, creeds, and sects are represented, and possibly the recommendation of candidates may emanate from medical societies during political sessions. The Board of Examiners is presumed to safeguard the public and act as a clearing house and check upon the medical colleges. When the graduate satisfies the examiners and the law, he is licensed to practice on anybody, any way he chooses. The candidate is subjected to a written examination and is supposed by many to answer correctly 75 per cent. of the questions. As a matter of fact, he is given 15 questions, allowed to select 10, and must gain a marking of 75 upon them. Consequently he is really obliged to answer correctly 50 per cent. in accordance with the opinion of the examiners. The questions and answers are published frequently and it seems as though the students who make a collection of them and cram, or are quizzed assiduously, might find it advantageous. No time need be consumed in explaining to an intelligent physician how crude, farcical and unreliable such a test for admission into one of the highest professions, must of necessity be. High percentages obtained in this way are cited with pride by the medical colleges as proof of superior teaching and preparation. The professors and the examiners are both anxious to advance the standards, but new obstacles and conservative policies seem to block the way.

New Standards Must Replace Old.

Your committee has learned with gratitude that the time is now near when the candidates will be compelled to reach a percentage of 75 on answers to the full 15 questions. Thus progress is gradually assured. The time seems to be ripe to insist that the state examinations should in reality prove a candidate's fitness to practice medicine and surgery by demonstration of his knowledge at the bedside and in the laboratory as well as by written evidence. Before entering such an examination, the applicant should be required to show that he has had actual experience and training in branches of medicine and surgery in a general hospital. It seems eminently fair to request that the licentiate to practice upon humanity in this State should be as well qualified as the Government carefully provides for the sailor and soldier. If such competence could be required there are a great many problems which would be effectually settled. Of course, the machinery would have to be changed. More money and a reorganization would become necessary, but the real purpose in creating a State Board of Examiners would be achieved and their function as sentinels fulfilled. The requirements in preliminary education should certainly be increased in this State.

Legislation should be secured, if necessary, to assist progressive action on the part of the Regents, and transform the personnel, organization and duties of the Board of Examiners in accordance with present conditions and the need of remedial measures. This Society may as well lead in this direction and make its influence felt in the State Medical Society. It will take time and wisdom to sift the facts and arrive at safe conclusions. There are many interests involved, and while radical action is needed, it should be sane and practical. If there is need of reformation and a sincere desire for improvement, relief seems to lie along that path. If the manifold taints of commercialism are to be discouraged and decreased, and the tone of the profession is to be raised, paramount causes must be attacked. There may be a full indulgence in garrulity and strong disapproval of wrongs expressed, but there are only two methods of gaining a greater height. The one who ought to climb must be helped or lift himself. It is about time to drive home the truth that "A little integrity is better than any career."

Publicity Recommended.

Your committee unanimously recommends that this report be published in medical journals and copies be given to the daily press to be fully presented to the public if possible. Publicity is the safest, sanest course to follow. The confidence of the people must be maintained without equivocation or deception. If the revelation or confession hurts, let the blame rest where it belongs. The mass of the profession is sound, clean and unafraid to condemn ignoble motives and improper conduct which has stealthily stolen into its ranks. Regret is blended with the hope that frank disapproval will make any other action unnecessary.

Fundamental Causes Explained.

The causes and effects seem easily discernible if they are fearlessly examined and the microscope is occasionally employed instead of a telescope. The historic course of events follow a natural sequence and it is not surprising that an avenging Nemesis is crying for retribution. When they are recited in proper order we can perceive a vast new nation with a rapidly increasing scattered population and no provision for the inception or control of medical education as it existed in older civilized countries. Medical colleges were of necessity created by small, practically self-appointed groups, with little or no restraint. Later they were too often established and employed for personal aggrandizement, questionable advantage, and direct and indirect profits. The false system inculcating special privileges, spread without proper jurisdiction or supervision. In the course of time the outcome was a multitude of proprietary medical schools and gradually a vast superabundance of diploma factories and an over-supply of the product. Substantial benevolent returns from the alumni in proportion to the annual crop, were most enticing. Then came control and domination of institutions and increase of lieutenants. Nothing paid so well as professorships and titles when used to promote the reference of cases and consultations. Frequently the aim in supply was quantity, not quality. Ultimately, lamentable overcrowding and a struggle for existence became only too evident. Ambitious doctors endeavored to advance and seize a share of reputation and compensation. Competition was difficult and became keener and fiercer. Many means were suggested to check the flood of graduates and a State examination was introduced. The hoped-for benefit has not been obtained. The number of unnecessary colleges and professors, the yearly flux of deluded graduates, the overcrowding and the baneful competition, continued to exist. Then came the increased cost of living and the added expense of modern practice with no increase and often a decrease in income. This condition is tremendously influenced by industrial and financial revolutions accompanied by a toleration for moral obliquity and censurable methods in business enterprise. At last a vicious, misdirected mode of competition is found which proves financially successful. It is devoted largely to a pitiful scramble for the dollar and is still limited to a small part of the profession. One mode of gaining ascendency and its tribute, was followed by another much less tolerable and more reprehensible from a moral standpoint. It is one system of reckless revolt and an adoption of the policy "After us the deluge." The great mass of the profession has a right to protest and complain of the character and amount of competition to which they have long submitted, but the fee splitter and the schemer by any method only add another more dangerous incubus. It is the worst outcropping polluted with a desire to substitute one abuse for another of which many have become thoroughly tired and exasperated.

The blame for the degradation and turmoil in the profession should be traced to its true origin and the labor of reformation belongs largely to those who are responsible for the conduct and out-put of institutions ostensibly intended for ethical and medical education and the laxity of government control which is the core

of the whole problem. Let there be no privilege not beneficial to the whole profession and a fair field on level ground. The cleansing process should extend beyond any one evil now exposed to the light. Its associates and their ancestors need ventilation and disinfection also.

REMEDIES SUGGESTED.

As the work of the committee progressed many cynical remarks have been heard to the effect that any exposure and consequent action will prove ephemeral and futile. It is claimed that this Society has no legal power to check or abolish such an evil as has been described. But there are methods which can be used in a drastic manner, if necessary. We ask that this report shall not fall cold and be deposited quietly in the archives of this Society. What the Erie County Medical Society begins should be thoroughly finished. A form of bribery must be starved by ostracism and denunciation, or strangled by some form of punishment. Let the matter be kept before the Society at future meetings. Investigation should continue. Activity and determined persistence will encourage other societies to follow and the benefit will be widespread. Now that the facts are known and the dangers appreciated reform or supine toleration are the only courses left open.

RECOMMENDATIONS OF COMMITTEE.

To insure and possibly guide effective remedial efforts, the following recommendations are submitted and approval requested:

1. Publication of this report in the medical journals and the daily press.

2. Reference of that portion relating to complaint, investigation and devising some form of punishment, to the committee on "Professional Relations," and thus provide for continued watchfulness and further consideration.

3. It is recommended that the Secretary transmit a communication to the State Board of Regents, urging the necessity of a higher preliminary educational requirement, and definite changes in the method and scope of the examination for a license to practice in this State, and that this matter be referred to a proper standing or special committee to arouse interest, stimulate inquiry and promote necessary progressive action leading to higher medical education.

4. It is also recommended that a special committee be appointed to report at an early date upon the extent, character, effects of professional services under contract or by agreement with companies, corporations, fraternal societies and life insurance companies; this report to include, if possible, practical remedies which may be applied to diminish this form of employment or place it upon a different basis.

Your committee was assigned a difficult, unpleasant and undesired task, and has discharged a duty with honest intent, free from any malice, prejudice or unkind feeling.

Respectfully submitted,
JOHN H. PRYOR, M.D., *Chairman.*
M. D. MANN, M.D.,
BERNARD BARTOW, M.D.,
F. PARK LEWIS, M.D.,
WILLIAM GAERTNER, M.D.,
IRVING P. LYON, M.D.,
E. A. BOWERMAN, M.D.,
T. J. WALSH, M.D.,
GROVER WENDE, M.D., *Ex-officio.*

LEGISLATIVE NOTES.

STANDING COMMITTEES OF THE ASSEMBLY FOR 1911.

On the Judiciary.—A. J. Levy, New York County; M. Goldberg, New York County; G. H. Wende, Erie County; J. Levy, New York County; P. P. McElligott, New York County; H. Spielberg, New York County; E. R. Terry, Kings County; A. Parker, New York County; W. R. Herrick, New York County; L. Goldstein, Kings County; H. J. Hinman, Albany County; C. W. Phillips, Monroe County; J. L. Sullivan, Chautauqua County.

On Affairs of Cities.—J. A. Foley, New York County; T. A. Brennan, New York County; J. H. Donnelly, Kings County; J. J. Hoey, New York County; M. A. O'Neil, Kings County; L. J. Neupert, Erie County; M. G. McCue, New York County; W. A. Shorrt, Richmond County; J. Gerhardt, New York County; A. Zorn, Queens County; F. W. Hammond, Onondaga County; H. W. Haines, Westchester County; A. Ward, Jr., New York County.

On Public Health.—R. P. Bush, Chemung County; M. McDaniels, Tompkins County; J. Seeley, Steuben County; W. M. Martin, Saratoga County; J. A. Warren, New York County; G. F. Carew, Kings County; H. J. Friedman, New York County; H. Heyman, Kings County; J. Schifferdecker, Kings County; C. F. Brown, Cortland County; C. S. Butler, Broome County; F. A. Waters, Orleans County; T. B. Wilson, Ontario County.

On Rules.—D. D. Frisbie, Schoharie County; A. E. Smith, New York County; J. Oliver, New York County; J. A. Foley, New York County; J. H. Donnelly, Kings County; E. A. Merritt, Jr., St. Lawrence County; J. S. Phillips, Allegany County.

STANDING COMMITTEES OF THE SENATE FOR 1911.

On Judiciary.—H. R. Bayne, S. J. Stilwell, J. D. McClelland, L. M. Black, Jr., A. J. Griffin, T. H. Ferris, W. P. Fiero, G. B. Burd, H. D. Hinman, J. M. Wainwright, H. P. Coats, J. T. Newcomb.

On Cities.—T. H. Cullen, J. J. Frawley, S. J. Ramsperger, D. J. Harte, S. J. Stilwell, R. H. Gittins, F. M. Loomis, J. F. Murtaugh, J. G. Saxe, E. M. Travis, J. B. Rose, V. M. Allen, G. F. Argetsinger.

On Public Health.—J. F. Murtaugh, C. D. Sullivan, A. J. Griffin, J. D. McClelland, J. F. Duhamel, F. W. Griffith, G. F. Argetsinger.

On Rules.—R. F. Wagner, T. D. Sullivan, T. H. Cullen, S. J. Ramsperger, E. T. Brackett.

BILLS INTRODUCED INTO THE LEGISLATURE.

January 4, to January 27, 1911.

IN ASSEMBLY.

An Act to amend the Agricultural Law, in relation to adulteration of food products. By. Mr. Cross. To Agricultural Committee. Printed No. 72. Int. 73.

An Act to amend the Penal Law, relative to the sale of tainted food. By Mr. Hearn. To Codes Committee. Printed No. 99. Int. 99.

An Act to amend the Public Health Law, relating to cold storage and refrigerating warehouses and places, and the sale or disposition of the food kept or preserved therein. By Mr. Brennan. To Public Health Committee. Printed No. 155. Int. 154.

An Act to amend the Greater New York Charter, in relation to free hospital boats or barges for the city of New York and to provide for meeting the temporary expense thereof by the issuance and sale of certificates of indebtedness of said city. By Mr. Farrell. To Cities Committee. Printed No. 164. Int. 163.

An Act to amend article 4 of the Labor Law, entitled "An act relating to labor, constituting chapter 31 of the Consolidated Laws," in relation to medical reports to the Bureau of Labor Statistics. By Mr. Foley. To Labor and Industrial Committee. Printed No. 165. Int. 164.

An Act to amend the Penal Law, in relation to premiums with sales by druggists and pharmacists. By Mr. Spielberg. To Codes Committee. Printed No. 178. Int. 177.

An Act to amend chapter 394 of the Laws of 1895, entitled "An act to revise the Charter of the city of Oswego," in relation to bonds for the construction of certain sewers therein and a sewage disposal plant therefor, and exempting such matter from the provisions of section 6 of the General Municipal Law. By Mr. Sweet. To Cities Committee. Printed No. 208. Int. 207.

An Act to amend the Town Law, in relation to the establishment and maintenance of sewer systems outside of incorporated cities and villages. By Mr. Goodwin. To Internal Affairs Committee. Printed No. 212. Int. 211.

An Act to establish a commission to inquire into the extent and nature of the practice in this State, of experimentation on living animals, together with the condition of the laws of the State relative to the proper protection of scientific experiments without danger of unnecessary cruelty. By Mr. Hoey. To Public Health Committee. Int. 286.

In Senate.

An Act to amend chapter 115 of the Laws of 1909, entitled "An act authorizing the city of Buffalo to construct, equip and maintain a municipal hospital or hospitals either within or outside the limits of said city, for the exclusive care and treatment of persons affected with incipient tuberculosis, and authorizing said city to acquire lands for such purposes and to borrow money therefor by the issue of bonds," increasing the aggregate amount which said city may borrow for such purposes. By Mr. Ramsperger. To Cities Committee. Printed No. 43. Int. 43.

An Act to amend the Public Health Law, in relation to the establishment of a state institute for the study of malignant disease at Buffalo, providing for its management and control. and making an appropriation therefor. By Mr. Loomis. To Finance Committee. Printed No. 75. Int. 75.

An Act to amend the Town Law, in relation to the establishment and maintenance of sewer systems outside of incorporated cities and villages. By Mr. Wainwright. To Committee on Internal Affairs of Towns and Counties. Printed No. 126. Int. 125.

An Act to reappropriate certain unexpended balances for the State Commission in Lunacy. By Mr. Ramsperger. To Finance Committee. Printed No. 135. Int. 134.

BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

The Care and Training of Children. By Le Grand Kerr, M.D., Author of "Diagnostics of Diseases of Children"; "The Baby: Its Care and Development." Professor of Diseases of Children in the Brooklyn Post-Graduate Medical School; Attending Physician to the Children's Department of the Methodist Episcopal (Seney) Hospital; Visiting Physician to the Children's Ward of the Williamsburg Hospital and the Swedish Hospital in Brooklyn, N. Y.; Consulting Physician to the Children's Department of the East New York Dispensary and to the Immanuel Hospital, etc. Funk & Wagnalls Company, New York and London. 1910. Price, 75 cents. By mail, 82 cents.

Diseases of the Anus, Rectum and Sigmoid. For the Use of Students and General Practitioners. By Samuel T. Earle, M.D., Professor Emeritus of Diseases of the Rectum in the Baltimore Medical College; Surgeon in Charge of Rectal Diseases at St. Joseph's Hospital, the Hebrew Hospital, and the Hospital for Women. With 152 illustrations in the text. Philadelphia and London. J. B. Lippincott Company. Price, $5.00 net.

A Hand Book of Practical Treatment. By many writers. Edited by John H. Musser, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, and A. O. J. Kelly, A.M., M.D., Assistant Professor of Medicine in the University of Pennsylvania, Philadelphia. Volume I. Philadelphia and London. W. B. Saunders Company. 1911. Price, cloth, $6.00 net. Half Morocco, $7.50 net.

The Principles of Pathology. By J. George Adami, M.A., M.D., LL.D., F.R.S., Professor of Pathology in McGill University, and Pathologist-in-Chief to The Royal Victoria Hospital, Montreal; late Fellow of Jesus College, Cambridge, England, and Albert G. Nicholls, M.A., M.D., D.Sc., F.R.S. (Can.) Assistant Professor of Pathology, and Lecturer in Medicine in McGill University; Out-patient Physician to the Montreal General Hospital; Assistant Physician and Pathologist to the Western Hospital. Volume II. Systemic Pathology. Second edition, revised and enlarged, with 301 engravings and 15 plates. Lea & Febiger. Philadelphia and New York. 1911.

BOOK REVIEWS

Gray's Anatomy; Anatomy, Descriptive and Applied. By Henry Gray, F.R.S., Late Lecturer on Anatomy at St. George's Hospital, London. New (eighteenth) edition, thoroughly revised, by Edward Anthony Spitzka, M.D., Professor of Anatomy in the Jefferson Medical College of Philadelphia. Imperial octavo, cloth, 1,496 pages, with 1,208 large and elaborate engravings. Price, with illustrations in colors, cloth, $6.00 net; leather, $7.00 net.

Books of real power are always few, for long life is decreed by reason of the vital quality they possess, and only time can confer this final recognition.

A half century ago Henry Gray gave to the world not merely a life-work, but a work so abounding with life that amid a host of competitors it remains unequalled and pre-eminent. In all medical literature there is no text-book that shares its venerable and distinguished service.

Henry Gray's knowledge of anatomy was great, but his insight into the best methods of imparting it to other minds was greater. His simple and lucid style of description is like his old but incomparable illustrations which exhibit at a glance the parts, their relations, and their nomenclature.

The publishers are to be congratulated upon this new eighteenth edition, for while previous revised editions represented the cumulative labors of many distinguished anatomists, this new revision appears to be the most thorough to which the work has ever been subjected. This is obvious in the careful consideration which has been given the text, much of which has been rewritten for the purpose of introducing the latest accessions to anatomical knowledge. Many of the older illustrations, no longer pertinent, have been dropped. and a number of new ones have been added. Under the heading of *"Applied Anatomy"* is discussed

the practical problems in medicine and surgery with which the anatomic facts are associated. As in previous editions full directions are given for the students' use in dissecting.

As a text-book for students and a reference book for practitioners this new eighteenth edition maintains the traditions of a distinguished career, and justifies the conclusion that Gray's Anatomy is endowed with perennial youth. WILLIAM FRANCIS CAMPBELL.

A TREATISE ON ORTHOPEDIC SURGERY. By ROYAL WHITMAN, M.D., Adjunct Professor of Orthopedic Surgery in the College of Physicians and Surgeons, New York; Professor of Orthopedic Surgery in the New York Polyclinic. New (fourth) edition, revised and enlarged. Octavo, 908 pages, with 601 illustrations, mostly original. Cloth, $5.50 net. Lea & Febiger, Publishers, Philadelphia and New York. 1910.

The fact that in 1910 a fourth edition of Whitman's Orthopedic Surgery is presented to the profession shows very clearly the value of this important work. It has grown from 630 pages of reading matter, exclusive of index, in the first edition, issued in 1901, to 881 pages in the present edition. This has been accompanied by a corresponding increase in illustrations. Much of the work has been rewritten and the praise bestowed on the earlier editions is equally applicable to this one. It is in every sense a representative work and gives one a very complete idea of orthopedic surgery of to-day. This branch has made many rapid advances in the last few years and these are fully chronicled in the last edition. It is, in fact, a complete work without being an encyclopedia. There is so much to praise in Whitman's Orthopedic Surgery that it seems hardly just to make any criticism, but it would add to the value of future editions to have a few more X-rays inserted. The reason probably for not doing it in this edition was that the quality of the paper does not permit of perfect reproduction of the picture, but it would seem that in as important a book as this, special paper might be added either in the body of the book or as an appendix on which X-rays could be properly shown. Many of the foreign books are thus arranged. W. R. T.

HISTORY OF MEDICINE. By MAX NEUBURGER, M.D., Professor of Medical History in the University of Vienna. Translated by ERNEST PLAYFAIR, M.B., M.R.C.P. In two volumes. Vol. I. London. Oxford University Press. 1910.

A medical historian has wisely observed: "History maketh a young man to be old without either wrinkles or gray hairs; privileging him with the experience of age without either the infirmities or inconveniences thereof. Yea, it not only maketh things past present, but enableth one to make a rational conjecture of things to come. For this world affordeth no new accidents, but in the same sense wherein we call it a *new* moon, which is the *old* one in another shape, and yet no other than that hath been formerly. Old actors return again, furbished over with some new and different circumstances." Much may be learned by the study of the medicine of the past. It displays the mutations which time produces.

This book begins with the earliest suggestions of medicine. It even goes back to the medical treatment which the lower animals applied to themselves and to one another in sickness and injury. Then the first lights of medicine among the Sumerians, Babylonians and Assyrians are described. Life, sickness and death, the Mesopotamians connected with demonistic theology and astrology. Anatomy was crude and derived from sacrifices and domestic observations. Disease was regarded as something foreign, introduced from without. Cure was largely a priestly function, to be accomplished by exorcising away the disease. Therapy was mainly a matter of prayers, ritual, exorcism, magic formulæ, amulets and symbolic manipulations. Associated with these were many practical and curative measures. But most of the measures which were really of curative value the primitive people had observed in the animals. Moist applications, the induction of emesis, the removal of foreign bodies, the principles of obstetrics, rest of injured parts, scratching to produce counter-irritation, etc., were used by the beasts. Then man added to these meritorious methods his gods, devils, demons and angels—and still retains them.

That a well-organized medical art existed 5000 B. C. is evident. A fee-bill was published in the reign of Hammurabi (2200 B. C.). Some extracts from it are as follows: "If a physician make a severe operation with a bronze operating knife and cure the patient he shall have ten shekels of silver." "If a physician make a severe wound on the person of a slave belonging to a freedman with the bronze operating knife and kill him, he shall replace the slave by another slave." "If a physician heal a broken bone, the patient shall pay the physician five shekels of silver." (It should be remembered that at this period the now lost art of tempering bronze was then known. Cutting instruments of bronze were made brittle and flexible as we are now able to make steel.)

The Egyptian physicians and the sanitary conditions in the land of the Pharaohs acquired high position. Homer wrote the praises of Egyptian medicine, and Herodotus declared Egypt to be the healthiest of countries and filled with physicians of whom "one treats only the diseases of the eye, another those of the head, the teeth, the abdomen, or the internal organs." Diodorus wrote that the Egyptian physicians looked upon the excessive consumption of food as one of the main causes of disease. They treated travellers without fee. The surgeons excelled in ophthalmic surgery and dentistry. Prophylaxis and hygiene were highly developed.

Among the Persians the doctrines of Zoroaster demanded moral and bodily cleanliness. It was forbidden to spit or urinate in a river or even to wash in it. It was a religious duty to avoid bodily uncleanliness, the soiling of clothes, vessels and implements, the degree of impurity being most minutely laid down. Sexual vice was forbidden by the Avesta (the Persian book of religion), with severe penalties. Such vices included adultery, prostitution, masturbation, pederastia and induced abortion.

A chapter of the book is given to the medicine of the Old Testament. "There can be no doubt," the author says, "that the hygiene of the Pentateuch found its model in the priestly hygiene of the Egyptians, and to this were later added ideas probably of Babylonian and Parsee origin." Scholars have long recognized the so-called Mosaic law as distinctly Egyptian. But the Jews failed to develop medicine. What they took from the Egyptians soon degenerated almost exclusively into the fetishism of their religion, as might have been expected of an oppressed people crowded back into a non-productive and arid region. Curiously it was not until hundreds of years of persecution by the Christians had developed their power—a power born of self-defense against frightful odds—that the Jewish people produced men who made their mark upon the history of medicine.

The chapter on the medicine of India is scholarly. The history of Indian medicine is preserved in the inexhaustible Sanskrit literature. The Rig Veda (1500 B. C.) and the Atharva Veda are rich in medical history. The Vedas, which are the sacred writings of India, show that medicine was an art and a business. The physician, says the Rig Veda, hopes by his cures to get horses, cattle and clothes. "The wishes of man vary; the waggoner desires wood, the doctor sickness, and the priest libations." The chapter on Chinese and Japanese medicine is most illuminating.

A second part of the book deals with medicine in classic antiquity. This is the largest and richest field

of research. The decline of medical art with the rise of the power of the Christian Church is briefly touched upon. While medicine declined in Christian Byzantium it arose in Mohammedan Arabia. "The medical art of the newly arisen world of Islam reached a height unsurpassed during the Middle Ages." The Mohammedan physicians introduced into Spain the first medical culture. They established hospitals for the humane care of the insane, although for nearly another thousand years Christendom continued to treat the insane as possessed of devils. During this period of Moorish supremacy the Jewish physician flourished and in many instances became eminent. The author says: "The foundation of hospitals is one of the glories of Arabic civilization and is proof of the philanthropic spirit actuating the rulers and nobility of Islam."

The author of this history deserves the thanks of the medical profession. He is a worthy successor of his former teacher, Professor Puschmann. It is to be hoped that the second volume, dealing with medicine from the Renaissance, may soon appear.

J. P. Warbasse.

OBITUARY.

DARWIN COLVIN, M.D.

Dr. Darwin Colvin, who, in 1895, was President of the New York State Medical Association, died at his home in Clyde, Wayne County, N. Y., on January 8, 1911. He was born in Washington County, N. Y., July 6, 1822. In 1831, his father, Nathan P. Colvin, removed to Clyde, and the son graduated from the medical department of Hobart College in 1844. He and his father then became partners for five years, and subsequently were closely associated in medical practice for about thirty years. In 1845, he married the daughter of Linus Ely, a prominent physician of Seneca County, N. Y. Two brothers of his mother, Dr. Lemuel C. Paine, and Dr. Robert Treat Paine, were physicians also, so that he was one of a very notable group of physicians associated by ties of blood or marriage. His services were much sought as a consultant in Wayne and adjoining counties, and he was frequently called to testify as an expert in medico-legal cases. During the War of the Rebellion he was commissioned as surgeon in the Union army but did not enter active service. He was commissioned also by Governor Morgan as surgeon of the 107th Regiment of the New York State National Guard, and continued to hold this position until mustered out. In the second surgical volume of the Medical and Surgical History of the War of the Rebellion, there is reported a case of gunshot wound of the cranium in which epileptic seizures were relieved by trephining. There were four or five such cases during the War of the Rebellion, but this one, which came under the care of Dr. Colvin in 1868, was the only one reported in which operation was successful. Dr. Colvin was noted for his readiness and affability in conversation and it was through this means very largely that he was able to exert so wide an influence as he did throughout an exceptionally long life dying at the ripe age of 88 years.

WILLIAM S. ELY, M.D.

Dr. William S. Ely died suddenly at his home in Rochester, N. Y., on January 15, 1911, when apparently beginning to recover from an illness of a week's duration.

William S. Ely entered the University of Rochester in 1857. He graduated in 1861 and at once entered upon the study of medicine in the office of his father who was one of the most learned of physicians. After a few months, the son enlisted in the army and went to the front as assistant surgeon of the 108th New York Regiment. Following the battle of Antietam, he was assigned to duty at Smoketown field hospital. A severe attack of fever nearly cost him his life.

On returning to duty after recovery, he was made assistant surgeon, United States Volunteers, and later executive officer of the great hospital at Annapolis.

Surgeon Ely, having received several promotions he had deserved, was mustered out in September, 1865. The next month he went to the College of Physicians and Surgeons, in New York.

On his graduation, in 1867, he returned to Rochester and began practice with his father.

In August, 1868, Dr. Ely succeeded his father on the medical staff of the Rochester City Hospital, now the General Hospital of the City of Rochester, and needs credit for establishing the Rochester City Hospital Training School for Nurses.

Furthermore, Dr. Ely was interested in all projects for the material, educational and moral advancement of his native city, as first vice-president of the board of trustees of the University of Rochester, he was a valued counselor, he was a supporter of all of Rochester's philanthropic agencies, he was prominent also, in the social life of Rochester.

Dr. Ely was for many years a member of the Board of Medical Examiners of the State of New York, and was an ex-president of the Medical Society of the State of New York.

Dr. Ely contributed many excellent papers at the meetings of the State Medical Society.

DEATHS.

Laban L. Bradshaw, M.D., New York City, died January 9, 1911.

Allison O. Douglass, M.D., Little Falls, died January 11, 1911.

William S. Ely, M.D., Rochester, died January 11, 1911.

Burdett Hoyt, M.D., Schenectady, died January 11, 1911.

Frank Harcourt Koyle, M.D., Hornell, died January 17, 1911.

Sigmund Lustgarten, M.D., New York City, died January 22, 1911.

Daniel B. Woodward, M.D., Ellenburg, died January, 1911.

NEW YORK STATE JOURNAL OF MEDICINE

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EDITORIAL DEPARTMENT

OURSELVES.

I AM certain that most of you have read that charming story, "Beside the Bonnie Brier Bush," by Ian Maclaren. As you probably remember, in it he idealizes a country doctor living in the little Scotch village of Drumtochty, his quaint sayings, his modest, unostentatious charity, his idolization by his patients. The pathos surrounding his death and burial makes your heart come up into your throat and tears attest your affection for this humble apostle of medicine. But the honest peasantry, the hedge-lined roadways, the heather-covered hills and moors disappear as they approach us in the mælstrom of our present environment. What we would like is an author, not to idealize, but to truthfully portray a composite medical man of the twentieth century in his various gradations from the country doctor to the scientist, the difficulties he encounters, the nerve-destroying intensity of his life, his self-sacrifices and meager compensation, all of which lie hidden beneath a genial countenance.

In every hamlet, village and city, you can find the counterpart of the lovable Dr. McClure, of Drumtochty. The personal benevolence and charity of the physician are sacred to himself and the recipient; his shortcomings are savory food for idle gossip. Individual acts amount to so little in comparison with the self-disinterestedness of the medical profession as a body in its relation to the public welfare. That our efforts are misunderstood and unappreciated is due, we believe, to a lack of knowledge of the source whence comes the criticism of our humane endeavors to conserve health. We seek to create a National Board of Health, and through the length and breadth of the land we are characterized as a Medical Trust, which in its modern acceptation is a term of opprobrium. We do not resent this. It has awakened us to the fact that our strife to maintain ourselves is becoming more difficult day by day, and that a little self-introspection may perhaps be beneficial. We are a nation of organizations. Labor organizes against the injustice to which it claims it is compelled to submit, to create conditions which will add to the material benefit of its individual members—a purely selfish motive. Organizations for the advancement of the different arts and sciences from a scientific standpoint are commendable but not humanitarian. Medical organizations enter necessarily into both of these divisions, but have we been just to ourselves in devoting so much time to the scientific, to the exclusion of the personal, or, say it, selfish element? Scan the programs of the meetings of the thousands of medical societies, conventions and symposiums, and you will find that their subjects are the prevention or amelioration of the physical and moral diseases of man. Are we not eternally striving for the eradication of disease, thereby lessening the need of our existence as physicians? Does the public give this fact a single thought? We know and weigh the cost, yet exult in the knowledge that we are helping our fellow-men.

I do not wish to magnify nor glorify our work, but to show you wherein we have ignored self. Let us continue with unabated zeal our altruistic work. It is an inheritance we cherish. At the same time let us consider that charity which begins at home and in what manner our charity can be made more charitable to ourselves. In view of the progressive increase in our expenses and diminishing incomes, is it not incumbent upon us to consider practical methods and theories, boldly and without fear of criticism? We are living in an age of commercialism, a commercialism unfortunately permeated with graft—graft which has left the scarlet scar of the dollar upon the brow of many of the once mighty men of the nation. Have we escaped its contaminating influence? Ask the man who gives and the man who accepts a commission for an operation. Ask the medical expert witness employed by corporations; the witness purchased by either side in

litigation; the man whose practice consists in exploiting damage suit cases. What will be their reply? A jingle of their thirty pieces of silver for which they have betrayed the honor of their profession. It is men of this type who cast the greatest obloquy upon our profession in the eyes of the public. Can we destroy this growing practice of "commission"? Yes, by publicly announcing that to our embarrassment such a practice exists, at the same time condemning it. Patients will not then be led by venal attendants but will insist upon selecting a surgeon or consultant of recognized probity. When you are met by such a proposition let your language express your indignation. It is your duty to make known men of this class that they may receive from honest men the contempt they deserve.

In what follows, know that I am speaking to representative men, successful men, men who can and should, from the enviable position they hold, do that which is in their power to assist that vast number of their fellows who, under the appearance of success, are striving to make ends meet. Do you know the men who suffer most? They are not the younger men nor the men located in the poorer localities, but the middle-aged and old practitioners who have labored for years quietly, unobtrusively making a living, but unable to save sufficient from their incomes to render their closing days free from want.

Can we formulate plans whereby there will be a more equal distribution of practice amongst the less richly endowed? Our first duty is to attempt to raise the profession from the lethargic state of self-indifference into which it has fallen, to render it strong, vigorous and assertive. Through our own endeavor the laws of New York have been made stringent against illegal practitioners of medicine, broad and comprehensive enough to convict Christian Scientists, Faith Healers, Commercial Medical Associations, prescribing druggists, unregistered midwives, cancer curers, bone setters, herb doctors, and others of this brood, who without even elementary knowledge give advice or medicine for monetary compensation. Until of late we have supinely permitted these laws to go unenforced. Why? Because to convict the guilty, evidence is necessary. Their clients will rarely appear against them. To secure evidence the employment of men and women detectives is necessary. Money is required to pay for these services and the other expenses attending prosecution. It would surprise you to know of the hundreds of complaints made to the Council of the County Society against these illegal practitioners. Heretofore, it was our custom to refer them to the District Attorney's office, and as a rule, that would be the last we would hear of them. I make no complaint against the District Attorney's office. It is overwhelmed with work and gives its attention, I presume, to what it considers more important cases. Last year the Medical Society of the County of Kings entered into an agreement with Mr. Vandiver, an attorney, to assist in the prosecution of these malefactors. The fines imposed go to the society prosecuting. If you will remember, an attempt was made to divert these fines from the societies to the county treasury. The Medical Society of the County of New York and the Medical Society of the County of Kings protested. The mayor held a public hearing on the matter and decided in our favor. The illegal practitioners, after a few of them were convicted and sent to prison, recognizing the sincerity and earnestness of our efforts, thought to frustrate them by taking from us our sinews of war, the fines. This shrewd move on their part met defeat through the decision of the mayor. In reality the fines inflicted amount to a small proportion of the expense. The County Society is just about able to meet its annual expenditures. To increase its fees would be ruinous. These prosecutions must be continued. It devolves upon us to contribute personally to a fund now being raised for this purpose. The amount will not be large—five dollars will do more good than 500 cubic feet of superheated air.

A deplorable evil in our midst is the lodge and society contract doctor. Without enriching himself, he robs his brother and lowers the whole tone of the profession. With this allusion I will pass it by. Its discussion would require a separate evening.

With Respect to Hospital Abuses.—My time and your patience would not bear the strain of their repetition, hence I will allude to but one phase, in which we and the State are related. As a body we are exemplary citizens, tax-payers and law-abiding, entitled to the same consideration as others, no more, no less. Do we receive from the State due consideration? What other class of men gives its services to the State without compensation? Is not the State financially able to take care of its sick poor? It houses, clothes and feeds them, but leaves to our charity their medical care. Why accept this charity when it can minister to its poor as well if not better than we? Is it just or generous for the State to accept our services, even though tendered voluntarily? Does it in any way reward us in return? Gentlemen holding hospital appointments need not seek nor take to themselves credit for purely charitable motives for their work in these institutions. They are influenced by self-interest, through the desire for experience, and prestige, which indirectly leads to recognition. Their opportunities give them an advantage over the outsider. This advantage is undoubtedly one of the factors which produce an unequal distribution of practice. This applies to their work in the sectarian hospitals as well, but in a modified degree, for there they have privileges which in a manner compensate them personally in addition to the above advantages.

In the breast of everyone dwells sympathy for

the suffering, indigent sick. This does not imply that everyone is willing to make a personal contribution of time and money for their alleviation, but it is undoubtedly true that the public desires above all that public funds be used for this humane purpose in preference to extravagant public expenditures. It follows then that the State should properly provide and pay for medical attention to its sick poor. I use the word State in its concrete sense, embodying State, county and municipality. In cities it should establish hospitals with outdoor services, in properly located districts. The personnel should be a paid staff, appointments to which should be made from a civil service list in which the professional standing and personal fitness for the respective departments be considered of equal or greater value than a general theoretical knowledge; the positions should be graded; the compensation should be equal to that paid to members of the legal profession in their relative positions of varying importance. A distinctive uniform should be worn and up-to-date scientific work under proper supervision should be obligatory. These hospitals should be open to the medical profession for the purpose of instruction, and the privilege of private practice should be denied to those holding appointments. This prohibition of private practice should be extended to the medical corps of the Police and Fire Departments, and also to the Department of Health, whose present system is unwieldy, with its large corps of ill-paid physicians combining private practice with official duties, in which both suffer. If this plan were followed the hospital staffs could devote all their time to hospital duty unhampered by private practice or anxiety for its pecuniary returns. It would give employment to a large number of physicians and withdraw from the field strong competition.

Sectarian hospitals should receive but two classes of patients, the poor who are unable to pay, and those who for various reasons prefer treatment in a private room of a hospital, for which they are not only able but willing to pay. They should do away with the pay ward now utilized by patients not willing to receive charity from the hospital but who accept it with the greatest complacency, *sans* gratitude, from the physician.

A closer reciprocal relationship should exist between the practitioner and the specialist. Specialism is now dominant in every branch of medicine. The conscientious physician when in doubt feels it his duty to call in consultation or refer his patient to a specialist. Moral recognition should be given to this action on his part and every effort be made to bind more strongly the ties existing between the patient and his medical attendant. We who do special work know how many, through ignorance or cupidity, are unworthy of their trust, who continue their treatment until the confidence of the patient is lost and irretrievable harm done. When possible, the specialist should act in an advisory capacity or with discriminating judgment refer back the patient to his medical adviser. The surgeon, for example, unless he believes the attendant to be incompetent, should, after the danger of the operation is over, leave to him the simple dressing of the case. Patients, as you know, are sometimes unreasonable in their demands. Here is a most common occurrence. A case is sent to the surgeon for operation. The patient, the patient's relatives and the surgeon invite the medical attendant to be present at the operation. He cannot well refuse without giving offense. A valuable afternoon or morning is lost to him, other patients neglected. Following the operation, friendly visits are looked for—this is all expected without any idea on the part of the patient that these offices should be paid for. The surgeon should in such cases consider his confrere's interest and say to the patient beforehand that his physician's presence at the operation is necessary, that if not actively participating in the operation, his advice regarding certain procedures may be required, and that he, the surgeon, will be given more confidence by his moral support, and that he should be paid for such service.

In conclusion, permit me to call your attention to what I consider a grievous dereliction on our part. It has become a habit with us to confine our writings to medical subjects of a technical character and published in medical journals whose pages are never turned by a layman. I advocate a medico-literary educational crusade. Are we to be whipped, scourged and held up to public scorn by venomous ignoramuses and commercial apostates? We should shake off the bonds which prevent us from expressing our views in current literature. There surely must be amongst us men qualified to write in terse, plain English, and interestingly, to lay readers, of the marvelous accomplishments of modern surgery and medicine, of preventive medicine and what it has already accomplished though yet in its infancy; to confound the muckrakers' libelous stories of the cruelties perpetrated in laboratories and hospitals by telling of the hundreds of thousands who enter their portals nigh unto death and go forth whole. It would be the most envious who would consider such contributions self-exploitatory. I would go further and advise medical men possessing literary ability to contribute to the popular magazines and meritorious newspapers. We have left this field too long uncultivated by reason of the scarecrow Ethics in it, the poisonous poppy flaunts its red flag where the fruitful wheat tassel should wave. The arrant, incomprehensible verbiage of the cultist appeals to the unenlightened as transcendental philosophy beyond their understanding, and thus they fall victims to its heresy. In these remarks I have touched the strings of pessimism, optimism and socialism, harmonize them and you will find a melody of true fraternalism.

John C. MacEvitt.

Original Articles

THE IDEAL MEDICAL EDUCATION FOR THE GENERAL PRACTITIONER AND THE SPECIALIST.*

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ONE who starts out to propound his conception of an ideal medical education must not be a Don Quixote fighting windmills. He must have the realities in mind and the attainable in sight. Again, while his aspiration for an ideal system necessarily presupposes dissatisfaction with the system that prevails, it should not cause him to lose sight of the splendid advances that such a system represents over the conditions of the past, nor should it arouse any other sentiment than a desire to better what is already good.

In such a spirit, therefore—in a spirit not of destructive but of constructive criticism—let us ask how our present systems of medical education can be improved until they become actually ideal. My own answer to this question, representing an earnest conviction based upon years of thought and observation, may be stated in the following categorical propositions, which, I trust, may not seem too dogmatic.

In offering them I desire to anticipate one objection. I am aware that any such radical changes as are here contemplated cannot be accomplished at once, nor except by slow degrees. All that we can do in effecting any progress of the sort, is to work little by little toward a desired ideal. In order that we may work toward it intelligently and effectively, our ideal should be put before us clearly and in all completeness, though it is not attainable now and though it perhaps never can be absolutely attained.

Furthermore, I realize that a good deal is herein propounded which some of our smaller institutions cannot well accomplish. Yet these smaller institutions are a necessity in a country like ours which combines so many diverse elements and diverse requirements. The output of doctors from a few select institutions with ideal facilities and equipment would never suffice. We must always have the small colleges and they will always hold a considerable place in our educational system. And let me say in passing that many features[1] of the proposed plan can be worked out as satisfactorily by a small institution as by a large one. Nor do I question the willingness of the small institution to make such changes when it can. I do not share in the feeling that the smaller colleges are necessarily inferior to those that are larger and better endowed. I do not believe that the strictures made against them in the report of the Carnegie Foundation are by any means altogether justified and fair. On the contrary, I believe that, apart from some flagrant exceptions, they are doing good work, are progressive, and are turning out men well equipped to practice medicine.

1. The Medical Course Should Have an Ample Basis of Liberal Studies.

By liberal studies, I mean those that are humanistic as distinguished from those that are technical and scientific. The tendency of late years has been to emphasize the value of the latter at the expense of the former. That this tendency is likely to lead to unfortunate results is well illustrated in the case of a sister science, engineering. Quite recently one of the greatest electrical experts in the country—indeed, one of the greatest in the world—addressed an association of college alumni on this point. He traced with great vividness the enormous advances that engineering had made; he showed how step by step technical studies had won their way to the front in our institutions of learning; he pictured how year by year the acquisition of scientific knowledge and drill in precise laboratory methods had pushed mere liberal studies more and more into the background. "And what," said he, "is the result? Engineering is a success, but the engineer is not a success." For, as he pointed out, the engineer, one-sided in training, over-developed in technical ability, under-developed in broad and general culture, had become largely a machine for other men to handle. The initiators and administrators even in engineering enterprises, he said, were the men who, destitute of the technical knowledge of the trained engineer, yet had the breadth of view, the grasp of general principles, the variety of information, and, perhaps, chief of all, the idealism that the latter lacked.

This same expert, speaking to a society of engineers, told his astonished confrères that every engineer ought to know Greek.

Much to the same purpose another engineer and educator[2] deplores the failure of the engineer to take his proper place in civic affairs, and attributes it to a one-sided and too technical education. He adds: "What truly humanistic studies can we rightfully exclude from the list useful as preparation for engineering professional life? Our solicitude need only be exercised to see that sufficient of the mathematical and physical sciences, the historical and economic studies, and the languages make constituent parts of the curriculum, and that the spirit and order in which these are studied are right."

Let us take warning from the experience of the engineers, and see to it that in our desire to produce the technical expert we shall not fail to

* Read before the Hospital Graduates' Club of New York City, November 17, 1910.

[1] Particularly those of individual teaching, early clinical work, the encouragement of original research, the requirement of a thesis, and post-graduate study. And, though a small college may not be able to offer the combined course, it yet can insist on a high standard of liberal training in its matriculates.

[2] Dugald C. Jackson in an address to the Stevens Engineering Society (*Science*, August 19, 1910).

evolve that still more important product, the all-round physician and man. Let us be heedful lest it be said of our science also that medicine is a success but the medical man is a failure.

The question of education, indeed, is a good deal like the question of diet. Man needs for his bodily welfare a proper proportion of proteids, carbohydrates, fats, and salts. Have any one dietetic element in excess, and the body fares ill.

So for his mental upbringing he must have in proper proportion the primary elements of a good education. These in the inverse order of their importance are—information, mental culture, mental discipline, and the promotion of high ideals. I have placed information lowest in the scale. Even in a technical school the mere acquisition of information is not the most important part of an education. It must be supplemented and liberally by training in observation, comparison, and deduction, by training in intellectual discrimination, by exercise of the æsthetic faculties, by cultivation of a mental perspective and the sense of proportion, by constant practice in right thinking and in right expression, and by a knowledge of human nature. To a certain limited degree such training can be secured by laboratory exercises and clinical practice, but for their full development it requires an ample infusion of the humanistic studies. To omit these in the preparation of a physician's career, and to ask him to rely for his mental development simply on technical information and practical work, would be a good deal like trying to sustain the body on a diet in which carbohydrates and fats were the staple, and the proteids reduced to a minimum.

There may be those who will admit that this proposition is true for men in other professions but will say that it is not so for the physician. A liberal education, they argue, is all very well and for some it may even be indispensable; but a medical man needs it less in any case, and with so much technical work to master he can ill afford the time for it. To such I would answer that if any man needs a genuine liberal culture nowadays, a physician does. The physician is becoming more and more a man of affairs—one to whom are entrusted large civic enterprises and the settlement of problems involving complex social relations and questions of administration. The public, too, has become critical and inquisitive. It insists on knowing the reasons for things medical, especially in matters involving the public health. The physician must be prepared to meet this spirit of inquiry. He must be ready to explain, to confute, to convince. Not only must he himself know in a scientific way the reasons for what he does, but he must be able to present these reasons in a lucid and convincing manner to the unscientific. Again, the physician must be all things to all men. He must meet the well-born and well-bred on their own plane of enlightenment and culture; and for the ignorant, the prejudiced, the perverse, and even the villainous he must have that large tolerance and that enlightened sympathy which a truly liberal education should beget. A knowledge of human nature and an ability to deal with human problems are not acquired in the laboratory. They are not acquired in the study room, either; but they are more readily learned from Socrates than from Galen, and certainly the study of literature, of the classics, of history, of philosophy, and of economics teach them better than do the study of bacteriology or of anatomy.

Personally, then, I feel sure that in the training of the medical man some things usually thought unnecessary should be included as of major importance. In this I feel that our ultimate aim should be higher than that set for the present in the "Ideal Course" proposed by the Council of Medical Education of the American Medical Association[3] and still higher than the standard required just now by the Association of American Medical Colleges.[4]

The former, for example, would require eighteen months of actual work[5] in Latin (through Cæsar); the latter would not necessarily require Latin at all except for a knowledge of the grammar. I think that the physician should have had no less than fifty months of actual work in Latin and should have read Cicero, Virgil and Horace.[6] Again, neither the one standard nor the other requires Greek. I believe that every physician should have devoted at least thirty-six months to Greek, and should have read Homer, the dramatists, and Plato in the original. The Greeks were by far the most artistic and the most intellectual people the world has ever seen; their literature represented the highest development of ancient thought; and their language was a marvelously delicate and powerful instrument for the expression of that thought. The study of that language and of the literature in the original, bringing us into intimate contact with the Greek mind, fulfills better than anything that has yet been devised the prime objects of education —information, mental culture, mental discipline, and the promotion of high ideals. There is, indeed, no greater training for the mind than is furnished by the study of the Greek language and the translation of Greek originals[7]; and, the Bible and Shakespeare apart, there is no greater storehouse for the mind and no more potent means of mental culture and spiritual uplift than is furnished by Greek literature. The influence of Athens is as vital to-day as it was when Macaulay paid his glowing tribute. No educated man, least of all a medical man, should

[3] Journal of the American Medical Association, August 20, 1910, page 681.
[4] Ibid., page 685.
[5] A month of actual work means twenty recitations or working periods of not less than forty minutes each.
[6] For the medical man certainly I would like to add Lucretius.
[7] Not the reading of translations from the Greek, which has no such cultural value.

ever lose personal touch with the classics. To him at least should never be addressed in vain the despairing query of the Oxford examiner: "Who dragged whom seven times round the walls of what?"[8]

For my own part I think it of more importance for me as a physician to have read Euripides than to know the technique of the Wassermann reaction. I believe that it is of greater value to me professionally to have studied Greek than to know German. This opinion, old-fashioned, and indeed, obsolete as it may seem, is based on a somewhat extended observation of different educational systems for a good many years, during which I have seen the rise and fall of several fads and have acquired a realizing sense of what one most practical man meant when he said: "Prove [test] all things; hold fast to that which is good." I hold fast to Greek.

History, ancient and modern, is an indispensable element of a physician's education; and so far from making nine months' study the minimum requirement as in the "Ideal Standard" of the American Medical Association, I should demand at least thirty months in this branch.

In English, also, including rhetoric and composition, I would require more than the minimum of eighteen months' work set forth in the standard mentioned. Considering the paramount importance of this study to any man and the painful evidence of its neglect that we daily encounter, I am sure that not less than fifty months of actual work are necessary. Such work would include, of necessity, a thorough knowledge and critical study of the Bible, considered as a masterpiece of literature, to be ignorant of which is a mark of an insufficient and illiberal education.

Knowledge of the modern languages is important—I will not say essential. Yet an education to be ideal will comprise at least a reading acquaintance with French and German.

Economics, sociology, philosophy, psychology, and logic certainly should not be neglected in any scheme of education designated as liberal.

Mathematics is an important element in liberal training. The amount at present required seems ample—perhaps, indeed, more than enough.

Finally, an extremely valuable aid to the medical student is a knowledge of drawing; and instruction in this art—particularly in drawing from nature—should be a regular part of the curriculum. Training, as it does, hand and eye, and drilling the student in observation, drawing should be taught seriously and thoroughly.

2. Medical and Liberal Studies Should Be Co-ordinate.

In the present arrangement the medical student passes abruptly from his non-technical to his technical studies, dropping the former absolutely as soon as the latter are taken up. This should not be. His education from beginning to end is an organic whole, the different portions of which should fit into and reinforce each other. For as long as possible in the course liberal and medical studies should be co-ordinate, not consecutive; and not only should they be co-ordinate, but should be pursued with equal interest and energy. As expressing my views I cannot do better than quote again from Professor Jackson's address: "Some more effective correlation of the liberal and professional curricula . . . should be devised than can be obtained by putting them end to end. A butt joint does not appeal to an engineer as a desirable arrangement for use where a well-knit and smooth splice is needed." And again: "The study of historical and economic subjects is of an importance in the engineering curriculum that rivals the study of science subjects; and, in order that the relations of engineering science and political economy may be understood and appreciated by the students, the study of such subjects may preferably be carried on side by side. . . . A span of horses makes a more effective team for co-operative work than a tandem pair, though it may not be so showy." True of engineering, which deals with inanimate things, how much more is this true of medicine, which deals with man, and in which, therefore, the combination of the humanistic and the technical sides of education should be just so much the more close.

Such a correlation of technical and liberal studies, if properly carried out would make the student realize that his humanistic training is an integral and essential part in the preparation for his life work. He would take his humanistic studies seriously and would devote to them time and attention now wasted. We should not then have to complain that desultory habits and slipshod methods acquired in college life had unfitted the college graduate for the hard grind of the medical school.

A correlation of this sort is naturally best effected in a university amply equipped with instruments and laboratories.[9] In such an institution the medical student would enter the college of liberal arts and early in his course—in his second year, even—would begin his preparatory medical studies (biology, chemistry, bacteriology, physiology). As he progresses these would occupy more and more of his time, but they would not even late in his course entirely supplant the humanistic studies; and at all times the latter would be treated as having a significance equal to that of his technical work and would have an equal weight in examinations.

Such a combined course would pretty certainly

[8] I may be pardoned if I steal this quotation and its application too from the inaugural address of President Richmond, of Union College.

[9] The objection that such a combined course is not feasible cannot hold. In other branches of technical work—and particularly in engineering, where, as has been said, the need of it has become so apparent—steps are already being taken in this direction. I need only refer to the six years' engineering course established at Union, which combines very happily humanistic and technical studies.

take sixty months of actual work, spread over six years or seven according to the length of the study terms. It would necessarily involve the conferring of two degrees—of A.B. some time during the course and of M.D. at the end of it.

3. Unnecessary Technical Work to Be Eliminated.

Our present system lays rather too much stress and spends too much time on narrowly technical details.[10] By the elimination of these not a little time could be saved.

Personally, I would cut out much of the laboratory work.[11] The student should have enough experience in this to learn the principles of chemical analysis and bacteriological study; but practice in the elaborate technique of such work can well be left to the expert. The like may be said of subjects like materia medica, toxicology, major surgery, and most of the specialties.

I do not mean that these subjects should not be taught. On the contrary, they should be taught in all their ramifications. The medical school, indeed, should aim to teach everything in medicine. But it should not try to teach everything to every man. The broad fundamentals of laboratory work with just sufficient practice to drive these fundamentals home; the broad fundamentals of medicine and surgery with abundant clinical practice; and the broad fundamentals of each of the specialties combined with sufficient illustrative clinical experience are all that we can reasonably require of the average graduate. He should not be required to learn or practice the more elaborate tests and finer minutiæ of special work, which he will have no occasion to use in his ordinary practice after leaving college, and which, anyhow, will very likely be superseded in a year or two by other tests and other minutiæ more precise or more correct.

To those who wish such special instruction it should be given and in all abundance by means of electives. To this point we shall come back later.

4. The Medical Course Should Begin and End Earlier.

The old medical course with all its failings had this merit that it started a man in his life work before he had had time to lose his initiative and his enthusiasm. Now the student, especially if he takes a hospital course, frequently does not begin practice until he is twenty-eight. Many cannot afford to wait so long before beginning to earn a livelihood. Even if they can, they have by this time lost some of the flexibility of mind, the fervor, and the originality that distinguish the younger man. It would undoubtedly be better if the physician started fully equipped for practice at twenty-five or earlier.

How to effect this is a serious problem. We are demanding all the time more and more knowledge from the medical student and it is even proposed to lengthen the medical course to five years. As already stated some of the work we exact can doubtless be eliminated; but even allowing for this deduction, the amount of actual technical work required could not be accomplished in less than four years of eight months' session each.

One obvious way of meeting the difficulty is to lengthen the sessions. There seems no good reason why the medical student should work but eight months in the year. Such a long break as four months in any course of studies is apt to be damaging. It is not demanded by any hygienic considerations. A vacation of two months, or, indeed, of six weeks is ample. If the sessions were each ten months instead of eight the work could be better distributed, less being crowded into each day, and the four years' course could still be reduced to three and a half. If the same principle were applied to the combined course here advocated, the latter could readily be accomplished in six years. In this six-years course the clinical and laboratory work could largely be relegated to the summer months.

But, after all, the remedy for the present condition of things lies not with the medical college nor with the university but with the preparatory schools.[12] The latter by their over-crowded, ill-arranged courses, their over-long vacations, and their too desultory methods of teaching, prolong unduly the period of preliminary training. The result is that our high school students are two years behind Europe in actual attainment and much further behind them in concentration and ability for study.[13] Ultimately a reform must take place. The inordinate vacations will be cut down, some unnecessary and merely ornamental studies will be eliminated, and the work that is required will be done with absolute thoroughness. Then our preparatory schools, instead of turning out pupils imperfectly prepared for college at eighteen, will turn them out well prepared at sixteen. Such a student taking up the combined liberal arts and medical course at sixteen will graduate in medicine at twenty-three, possibly at twenty-two.

5. Necessity of Individual Teaching.

To secure the best results, the ideal medical course should seek to retain and to emphasize that most valuable feature in any system of training, viz., individual teaching—the man-to-man contact of instructor and pupil. In the old

[10] The fault here lies largely with the state examining boards, to the requirements of which the medical schools have to conform. That these requirements are sometimes ill-judged and that the questions propounded are often a poor test of a student's knowledge, is, I think, evident from a perusal of the examination papers.

[11] Not, however, work in the dissecting room.

[12] I am aware that this is not a quite accurate statement. The schools while faulty in the points mentioned have to consider and be governed by the demands of the colleges which they are intended to supply. A concerted reform is demanded on the part of both the universities and the preparatory schools.

[13] This fact invalidates somewhat the interesting comparison between the medical courses here and in Europe, made in the Journal of the American Medical Association, of August 20, 1910.

days this was obtained by the preceptorial system. Each student was supposed to study medicine for three years under a preceptor who was selected by the student himself and might or might not be connected with the faculty of the medical school. In my day the connection between student and preceptor had become largely nominal, but before that it was often a real one and of great importance to the student. The preceptor being often a man of brilliancy and force, and his relations with his students being intimate and informal, the instruction, no matter how haphazard, sank in deep, and carried with it a personal impress, which in the case of a master mind was worth far more than the knowledge itself.

It would probably be impracticable to revive this system now, nor would it be quite desirable, since, to accomplish the best results, the preceptors should be under the control of the medical school, so that the teaching of the two can be properly co-ordinated. The desired object might be secured by the adoption of some such preceptorial system as obtains at Princeton. This would mean a considerable enlargement of the present teaching force. Out of this a number of men would be appointed preceptors, and to each of these four or five students would be assigned. As in the case of the old preceptors, the relations between instructor and student would be intimate and informal; the instruction would be individual. The preceptor meeting the students assigned to him twice a week or oftener, would straighten out their difficulties, find out their weak points, stimulate them to enthusiasm, and confirm them in their knowledge.

This preceptorial system would be still more useful to the student when he took up clinical work, for in this more than in anything else individual teaching is required. To this point we shall recur presently.

6. Clinical Instruction Should Begin Early.

The medical student, disheartened by the apparently endless grind of theoretical studies and laboratory practice, is usually mightily stimulated and encouraged by his first contact with practical medical work. It is important that such contact should come early in his course, because it not only relieves the monotony of his theoretical studies, but also because it shows the real relation of the latter to his professional work. I believe, in fact, that a student should begin to observe patients before he has begun to study the theory of medicine and surgery. A person who does not yet know the pathology or symptomatology of typhoid fever, nevertheless by observing a case of this disease can learn a vast deal about practical medicine. Under the tuition of his preceptor the student can learn how to observe symptoms, how to take histories, how to write a prescription, how to administer medicine, how to give a hypodermic or a cold bath, and how to nurse a fever patient. Such practical information will be of great help to him later when he is trying to master the more specific theoretical information given by his text-books and teachers.

This sort and amount of practical work I should introduce in the fourth year of the combined course (corresponding to the second year of the present medical curriculum).

7. Clinical Work to Be Graded and Responsibility Gradually Increased.

In the last two years of the medical course more and more stress will naturally be laid upon clinical work. But this should not mean simply that the student sees more and more cases. On the contrary, it means that he gets more and more practice in handling cases himself. In no other way can he really learn his art. Such practice would necessarily be graded just as it is in the case of a hospital interne. In other words, the student under the guidance of his clinical preceptor would examine and as his experience increased would treat patients specifically assigned to him for observation. He would follow the course of the cases from day to day, noting the symptoms and presenting written reports to his preceptor. Little by little he would be allowed a freer hand and be given more responsibility until at the end of his final year he would be able to diagnosticate and treat conditions of ordinary disease and injury, such as he will be likely to meet in practice.

This would mean more time spent by the student in clinical work and would involve cutting out some of the theoretical teaching and particularly some of the laboratory work. The exchange would be well worth while.

If this plan of individual work under the guidance of clinical preceptors but with increasing responsibility on the part of the student should be carried out, the graduate from the medical school would not have to supplement his college course by a postgraduate term in a hospital. It would be desirable, indeed, that he should do so, but it would not be necessary. And this is as it should be, for the conferring of the degree of M.D. should mean that the possessor of the degree is *ipso facto* not only entitled but also qualified to practice.

8. Necessity for a University Hospital.

If the student is thus to have early, abundant and graded clinical instruction under the individual guidance of his preceptor, the medical school must of necessity have its own hospital in which such a preceptor is *ex-officio* an attendant. For other reasons, too, such an adjunct is an essential in the ideal organization of a medical school. The latter would not then have to depend on any outside hospital to supply it with clinical material and clinical teachers. It would thus be unrestricted in the choice of its teaching force, and would have complete control of all

the cases and the pathological material that could be utilized for instruction or for research.

9. Multiplication of Elective Studies.

According to the plan already proposed all that we should require of the average medical student for graduation would be the broad fundamentals of theory and a laboratory practice supplemented by a generous amount of graded practical work in clinical medicine and surgery. For the man who seeks special honors, for the man who aims later to specialize in laboratory work, in pathology, in the refinements of physical diagnosis, in surgery, in ophthalmology, or in any other branch, electives should be offered. These as a rule would not be taken up until the last year and would then replace a certain amount of the clinical work required of the ordinary student.[14] For example: In ophthalmology every student (preferably in the year before the last) would be made to observe and learn the distinguishing marks of conjunctivitis, iritis, glaucoma, and corneal ulceration, and would master the principles of treatment of each. He would get such a practical acquaintance with the ophthalmoscope as would enable him to make out the gross lesions—cataract, vitreous opacities, optic neuritis, optic-nerve atrophy, large retinal exudates and hemorrhages—and such acquaintance with the visual tests as would enable him to determine without any special instruments the vision, field, presence of a scotoma and presence of color blindness (the last with particular reference to the diagnosis of toxic amblyopia). As to refraction he could know what hyperopia, myopia, astigmatism and presbyopia are, and would get a general idea of how they are corrected, but would not be required to learn the technique of refraction-testing. On the other hand, those who elected ophthalmology would in their final year have more precise instruction in this branch with additional clinical work, and would be taught how to determine the refraction accurately by the objective tests and the trial case. It would be understood that such an elective course would not qualify a man to practice ophthalmology. It would simply pave the way for him to do so later if he wished, and furthermore would enable a man who intended taking up practice in a place remote from specialists to do more justice to his patients in this important branch.

The choice of electives would naturally be subject to careful regulation. They should not displace too much clinical work, and anyone wishing to take many electives should put off some of them to the postgraduate year.

10. Encouragement of Original Work.

It is the reproach of our universities in general and of our medical schools in particular that they do far too little research work. For research, indeed, the student tied to a Procrustean routine has at present neither leisure nor inclination. Yet it is important that he should devote some time to it. Original work, even if it leads to no great results, is a mental stimulus of considerable value to the one who undertakes it, and, more than anything else, it leads him to esteem and correctly to appraise original work in others. Moreover, some at least of those who do original work in their undergraduate days will receive the impetus to do effective research in after life.

Some provisions of the educational plan here advocated will make it easier for the student to develop along individual lines and do original work. The widespread application of individual teaching, the introduction of clinical study early in the course, with graded clinical work later on, the opportunities offered by the university hospital, and a wisely limited use of electives will all tend to this end. So too will two features not yet touched on, viz., the requirement of a thesis for graduation and the wide range of subjects offered in the postgraduate year.

11. Requirement of a Thesis.

It seems a pity that the good old custom of requiring a thesis for graduation was ever dropped. After a long period of prescribed study and of routine work mapped out for him by his instructors, the student called upon to prepare a thesis suddenly finds himself compelled to do some searching of a literature outside of his textbooks. In doing this he is learning the sources for himself and no longer leaning on authority, he learns to compare and weigh evidence for himself, his intellectual faculties are exercised, his interest stimulated, and his mental horizon enlarged.

If the student is taking the combined course, I believe that at the time he comes up for his A.B. degree (at the end of the third or fourth year), he should present a thesis on some nontechnical topic; and as a preliminary to his graduation in medicine at the end of his final year he should present a thesis on some medical subject. In either case, as of old, the thesis should be counted as the equivalent of an examination, and failure in it would count as a failure in a major subject.

12. The Postgraduate Year.

In order to fulfill its entire function as a training school in medicine, the university should have a postgraduate year devoted to all kinds of electives and special studies.

This would subserve several purposes.

First, it would help the man who, not caring to become a specialist, yet wishes to obtain a pretty intimate knowledge of three or four specialties at once—a thing he could not well do during all the other work of his undergraduate course. Such would be the man who intends to engage in

[14] This would be the more allowable because men taking electives would be the very ones to get postgraduate work in the hospitals.

country practice, where he would have to be more or less adept in all branches. For such a man the postgraduate year might well take the place of a year or two in the hospital, and for his purposes it might be even more advantageous.

Again, such a postgraduate year would be useful to any graduate who wishes to study the latest developments in any particular line—in laboratory technique, for example, or in major surgery. In particular, it might aid the practitioner by giving him under proper regulations opportunity to practice operations on the cadaver, or guide the practitioner who wishes to do special research work.

Lastly it would serve to educate the specialist.[15]

13. Education of the Specialist.

One of the most important functions of the university would be to educate the specialist. At present the training of the latter is accomplished in the most haphazard and often unsatisfactory manner. Nor have our postgraduate schools adequately solved the problem.

My conception of the requirements for the education of a specialist are these:

1. Either in his undergraduate course or in the postgraduate year he must have taken an elective in his chosen specialty, and an elective in any closely affiliated branch (*e.g.* in neurology if he is studying ophthalmology).

2. He must have had at least two years of postgraduate clinical work in general medicine and surgery—preferably in a general hospital.

3. After this—not before—he must take a year's work (ten months) in the postgraduate course of the university in his specialty. This would comprise theoretical technical work, lectures, recitations, and continuous practical work as an assistant in the college dispensary.

4. He must present a satisfactory thesis on some subject connected with his specialty.

5. He must pass a satisfactory examination in the theory and practice of his specialty. This would include an examination in the diagnosis of cases taken from the college dispensary.

14. The Degree of Ph.D. for the Specialist.

It is only fair that one who has spent so much time to fit himself and has proved his fitness by examination should receive a special degree. A diploma or certificate is hardly an adequate equivalent for the time and labor expended.

The proposition made by a distinguished colleague in Chicago to give the degree of Master of Medicine seems unwise, because in the first place to crown the degree of doctor by that of master is an anti-climax, and in the second place any new degree such as M.M. is likely to be confounded by the public with the various non-medical titles given by the "colleges" of optometry, neurology, etc. Much better is the proposition[16] to give the degree of Ph.D. (to which, if thought necessary, may be added in parenthesis "in medical science"). This degree is known the world over as an honorable distinction conferred for postgraduate scientific work. There is no reason why it should not be given for postgraduate scientific work in medicine.

Resumé.

The propositions I have made may be summarized in the following ideal sketch of what I should hope to see obtaining in the future.

1. The ideal medical course will be based on or rather will contain a large number of humanistic studies, comprising prominently Greek, Latin, English, history, economics, psychology and drawing.

2. These humanistic studies will be pursued side by side with the technical work and will be treated as of equal importance. This co-ordination of the two will be best effected by a combined liberal arts and technical course leading to the degrees of A.B. and M.D. This course will comprise sixty months of actual work which can well be compressed into six years.

3. For the ordinary medical student intending to become a general practitioner, some of the technical work now required (especially in the laboratory) will be eliminated—its place being taken by clinical work or by humanistic studies.

4. The medical course will begin and end earlier. This can be effected by making the work in the preparatory schools less diffuse and more thorough and by lengthening the terms both in the schools and in the university from eight months to ten. In that case the student will begin his combined course at sixteen, get his A. B. at or about twenty, and his M.D. at twenty-two.

5. Teaching will, as far as possible, be made individual. This will probably be best attained by the appointment of numerous preceptors. Each preceptor will have charge of four or five students, and it will be his business to see that they understand their work and that they do it properly. His relations with them will be intimate and informal.

6. The student will enter upon elementary clinical work early in his course and even before he receives any didactic instruction on the theory and treatment of disease.

7. Clinical work will be graded. Step by step the student will learn to handle cases for himself. Under the guidance of his clinical preceptor cases will be put under his care, whose course he will follow day by day. As his experience increases he will be accorded more responsibility

[15] The postgraduate year might well last the whole twelve months so that students could begin work in it immediately after commencement.

[16] Made—among others—by Dr. George F. Keiper, of Lafayette, Indiana (Journal of Indiana State Medical Association, December, 1909).

and a freer hand, until at the end of his course he will be competent to diagnosticate and treat any ordinary cases of disease. When he receives his degree he will not need a supplementary hospital course in order to qualify himself for practice.

8. The university will have its own hospital which shall be completely under its control and which shall be officered by its own preceptors.

9. The university will provide all sorts of elective courses in all branches for undergraduate and postgraduate work. The selection of these by students will be strictly regulated, and only a very limited number can be taken by any one man before graduation. After graduation it will be possible for the student to get at his university the most detailed instruction and the fullest practical work in any medical subject.

10. The student will be systematically encouraged to do original work. Efficient aids to this end will be the plan of individual teaching and of individual clinical work here advocated, together with a wise application of the elective system.

11. The thesis will be restored as a requirement for graduation. In the combined course the student will present two theses—one on a non-technical subject for the degree of A.B., the other on a medical topic for the degree of M.D. In either case the thesis will count as the equivalent of an examination in a major subject.

12. The university will give ample postgraduate instruction in all departments of medicine:

(*a*) For the benefit of graduates, especially those aiming to be country practitioners, who without desiring to be specialists, yet wish to be more or less conversant with several specialties;

(*b*) For graduates who wish to pursue some special line of research or get special information in any field;

(*c*) For those wishing to become specialists.

13. To the specialist the university will give an adequate, systematic and thorough training. It will require of him:

(*a*) That he take certain specified electives either in the undergraduate course or in the postgraduate year;

(*b*) That he spend at least two years after graduation in general medical and surgical work (preferably in a hospital);

(*c*) That he afterward spend a full year in postgraduate work at the university in the theory and practice of his specialty;

(*d*) That he present a thesis on some subject connected with his specialty;

(*e*) That he pass a satisfactory examination in the theory and practice of his specialty.

14. On his fulfilling these requirements the university will confer on him the degree of Ph.D.

LOCALIZED AND GENERAL PERITONITIS. SHALL WE ASK NATURE TO DO HER OWN SURGERY?*

By W. DOUGLAS WARD, M.D.,
ROCHESTER, N. Y.

PERITONITIS is still one of the diseases about which the surgeons of the world are not agreed, therefore, it is still a fruitful field for discussion.

The picture of the pathology is so familiar to you all that I shall not take up your time to describe it. The coils of intestine, red and injected or covered with thick, yellow, cheesy lymph lie one upon another, often adherent and hemming in puddles of pus. Sharp kinks are often produced causing partial obstruction, one will be distended with gas, another small and flat, and as you look into the abdomen, you see unusual irregular figures, a star-fish is a common one. Then down in the right iliac fossa is a little wriggler, black and green with a hole in it, or in the pelvis is a big yellow pus tube or there is a hole in the stomach or intestine with a reddened area around it, showing where there had been an ulcer.

These are the cases in which Alonzo Clark advised the use of opium and rest, and the surgeon was afraid at first to deal with the condition. But way back in 1835 Marion Sims[1] punctured a peritoneal abscess probably from an appendix and the patient got well. Some surgeons are doing no more to-day. On the other hand the gradual development in the surgical treatment of peritonitis has brought us some men who do complete work.

In recent years while much study has been directed along bacteriological lines and the theory of immunity worked out very beautifully in its many details and applied to peritonitis as to other diseases, it seems as if the pendulum were swinging backward again in treatment and much partial and incomplete work is being done. Ochsner was one of the first to do nothing at all until all acute symptoms were passed; others merely puncture a hole in the abdomen and put a tube into the recto-vesical pouch; others remove the offending member, but stop there; whereas, still others remove the offending member and then clean house. It is my purpose today to discuss this very vital question as to which of these methods will give the best results. Shall we do complete work or as little as possible? When I speak of best results I mean save the most lives and also leave the fewest invalids. In many cases the patient would rather be dead than a lifelong invalid. It is to be remembered, too, that the lives to be saved are not only those of the patients who come directly under our care, but also that far larger number who are destined

* Read before the Seventh District Branch of the Medical Society of the State of New York, at Geneva, September 15, 1910.

to be treated by somebody who has been influenced by our teachings.

The etiology of peritonitis is well worked out now and the common primary sources are well known. But what is the factor in any given case of peritonitis which caused the primary trouble to extend and produce the secondary lesion. Nine times out of ten it is an operation performed too late or not at all. In other words, there is a time in every case when the primary disease can be attacked and eradicated, preventing the secondary trouble.

When is this time?

Many surgeons are doing a great harm to-day by formulating rules as to when to operate and when not to operate in appendicitis, in salpingitis, in cholecystitis, etc. There is no use in making distinctions as to the various sources of peritonitis when discussing the question of operation. If you say operate immediately in appendiceal peritonitis, but wait in that arising from gall bladder or pus tube, you are making trouble for many of us right away, for you are making the life of our patient dependent upon our ability to make a differential diagnosis often hard, sometimes impossible. Gentlemen, the only safe rule as to when to operate in all forms of peritonitis is that of Dr. Joseph Price, of Philadelphia. It is so simple that we can all remember it and so useful that if it were unanimously adopted throughout this country the cases in which the peritonitis became general would be few and far between. There are no "ifs" or "whens," the rule is this[2]: "Operate the first hour at any stage."

In a case of ruptured ulcer of the stomach or typhoid ulcer no surgeon hesitates. The statistics compiled by Mayo, Robson and Moynihan[3] show only too conclusively that the only hope of saving the life of your patient is by operating within a very few hours of the time of perforation, the sooner the better. Exactly the same rule should be applied to cases of appendicitis, cholecystitis, salpingitis, etc. Only last Sunday the woman who lives next door to me died from peritonitis. Why? Simply because she fell into the hands of a surgeon who believed in these rules as to when to operate and when not to operate in appendicitis. What happened? The woman was taken sick Friday night, a surgeon was called in consultation Saturday morning. He decided to wait to see what course the disease would take, his rules said wait, so he waited. He saw her again Saturday afternoon, again Sunday and still he waited. On Monday he decided he could not wait any longer if he wanted a live patient, so he operated. What he did or how he did it I don't know, but the patient died on the sixth day. Who is responsible for that woman's death? Is it the surgeon who operated or is it "the men higher up," the teachers who formulated the rules as to when to operate and when not to operate. I think the latter, for is there a man here who doubts for a minute but what the woman's life would have been saved if the surgeon had used Dr. Price's rule, "operate the first hour in any stage?"

It is true that in some of these cases you can delay and the patient will sometimes get well, but the trouble is that nobody—and I don't care who he is—can predict in a particular case just what course the disease will take, whether it will be rapid and fatal or mild and self-limited. The symptoms are not definitive of the lesion that will be found within the abdomen. Anyone who has done much of this work has been surprised again and again by finding a ruptured and gangrenous appendix with beginning peritonitis when the patient had a temperature of 98 degrees, a pulse of 70 and few symptoms. Here is where the delay surgeon is bound to make an occasional mistake and when the immediate operator wins his laurels.

I can foresee the objections that are going to be raised by the physiological surgeons, those who want nature to do the work. They will say "we are getting good results by waiting and doing little. We don't want to subject our patients to the risk of an operation performed in an acute case upon the third, fourth or fifth day. We want to avoid the high mortality often present when an operation is performed with the inflammatory process at its height." Gentlemen, that high mortality is a bugbear which does not need to exist. The mortality in stomach surgery used to be high, but the good work of the Mayos, Robson, Moynihan and others has reduced it so that we no longer hesitate to operate in these cases. Similarly the mortality in these acute abdominal infections used to be high, but the work of Jos. Price has made it perfectly possible to handle them promptly, thoroughly and with a low mortality.

Furthermore, the longer you wait for a quiescent stage the greater the extent of the pathology. The adhesions, which are soft and easily broken in the acute stage, become more dense and more extensive the longer they are left and the danger of bowel injury is greatly increased. A simple case of salpingitis which in the acute stage could be very quickly and easily handled may give you a year or so later such dense and firm adhesions that to deliver the pathology will be like quarrying a stone out of the rock. The operation will be much longer and more severe, the danger to the patient much greater, to say nothing of the year or two of discomfort you have caused the patient, and the risk of damage to the kidneys and organism in general from chronic sepsis. It is certainly reasonable that the quicker you can remove a septic focus from the body the less damage will be done that body. So the only valid excuse for delaying operation in these cases is the fear of endangering life by operating then, when there is less risk in an interval operation. An operation in a quiescent

stage is undeniably less dangerous than one in an acute stage, but when you see a patient in the acute stage and advise him to wait and tell him you will watch him and try to save him an operation if possible, or tide him over to a safe period, you are telling that patient to run an infinitely greater risk than he would be in the operation and you are shifting your responsibility on to the patient. You are refusing to help him in his time of greatest need. These operations in acute stages are not nearly so dangerous as many of us imagine. It is as if you saw a little fire in the attic of a house and told the owner you would wait and watch it and if it began to get big you would try to put it out, but you wouldn't do anything now for fear of wetting the furniture. A rapid, careful and complete operation can be done and will give good results. My own series of cases is not large enough to prove anything, but a couple of case reports may be interesting and illustrative of this type and if you will look up the results in the Price clinic you will find a very large series giving very valuable data and showing the splendid results obtained by complete and early work.

Case I.—M. S., factory girl, 24 years old. I was called to see her for the first time September 23, 1909, at about noon. The girl was just moaning and tossing with pain in the abdomen. It began the previous day and was felt at first in the epigastrium; now it centers about the navel and shoots down towards the right iliac fossa. She is vomiting every few minutes, whether she takes anything or not. Temperature, 102 degrees; pulse, 108. General appearance is that of a very sick girl. The lower abdomen is quite rigid, but equally so on both sides. Some tenderness over appendix, but not marked. She has had no symptoms of pelvic trouble, leucorrhœa or menstrual pains. The diagnosis of appendicitis was made and immediate operation urged. She was moved to the hospital that afternoon and on her way there without any anodyne the pain suddenly stopped. She thought she was better, but her expression was not good, the abdominal rigidity was distinct and temperature had gone up to 104 degrees, pulse, 130. Here was a typical acute case at its very height, and the cessation of pain probably meant that rupture had taken place. Operation was performed at 9 P. M. I made the incision along the edge of the rectus. As soon as the peritoneum was opened, pus welled up unconfined by adhesions of any kind. It is mopped up and the appendix found behind the cecum pointing towards the umbilicus. It is adherent to the mesentery and ruptured near the base. The appendix was removed and then the pelvis explored so as not to leave any pus pockets there or among the intestines. The pelvis and ileo-cecal region were then flushed thoroughly and the Price cofferdam drain of gauze placed. No sutures in abdominal wall. The operation was performed at 9 P. M. and at seven o'clock the next morning the temperature had dropped from 104 to 99 4-5 degrees and the pulse from 130 to 78. The girl was practically cured. The source of trouble had been removed, the abdomen cleaned up, sepsis arrested. From that morning the girl went on without a bad symptom. Bowels moved of own accord on second day. She was in the hospital five weeks and during all that time never had a single dose of medicine of any kind.

Case II.—Mrs. F., 40 years old. Housewife. Has had four children and several miscarriages, probably five or six. This time she was taken sick April 7, 1909. She complained of chills and fever and headache, no other pain of any kind. I examined abdomen carefully but could find nothing wrong, no tenderness anywhere. Pulse was 110, temperature, 103 2-5 degrees. That afternoon she had another chill, fever and sweat and at two the next morning another, but when I saw her about ten, temperature was down to 98 degrees and she was feeling a little better, still no pain or tenderness; but shortly she began to flood and at 10 P. M. had a miscarriage. Next morning temperature was up to 102 degrees again, pulse 108 and she felt very poorly. I insisted on immediate operation and she went into the hospital that afternoon. I operated at four o'clock. I first emptied the uterus, which was full of foul, decomposing placenta, curetted and flushed until it was quite clean, then I opened the abdomen and found both tubes acutely inflamed, pus oozing from the open fimbriated extremities. No adhesions, no bowel involvement. I remove both tubes and ovaries. Do not drain, close abdomen with through and through silk-worm gut sutures. The operation was quick and the patient, though a big, fleshy woman, reacted well, had no nausea or vomiting afterwards and was really very comfortable the next morning. Bowels began to move next day, abdomen flat, patient hungry. Third day patient had a chill and this was followed by a temperature of 105 degrees. I put a rubber tube into uterus and flushed it with alcohol 50 per cent. Temperature gradually came down and patient went on to a good recovery though a little slow, for the abdominal incision broke down and had to heal by granulation.

These two recent cases I cite simply as types where the operation was performed at the height of an acute disease, showing how well the patient will stand operation and how nicely they do. I could describe many similar cases. This fact being proven it removes the only possible objection to the Price rule, "Operate first hour in any stage." This rule is the greatest prophylactic we have against general peritonitis.

But if the time for prophylaxis has passed, if that valuable time when the primary lesion could have been checked as such has been allowed to slip away unutilized, if a well-developed peritonitis of one, two or three days' standing is

already present, how should we treat that? How much shall we do? and how much shall we ask nature to do? Shall we simply puncture a hole in the abdominal wall, put a rubber tube into the recto-vesical pouch, sit the patient up in bed and give salt solution continuously by rectum? If we do this will nature be able to win the rest of the fight by herself and if she comes out alive will she come out unscarred? Have we done the best that we can for her?

The Price school, of which I claim to be a pupil, believe far differently.

A small opening with a tube into the cul-de-sac will relieve somewhat the intra-abdominal tension and the upright position may help the free pus to drain to that point, but how about the pockets bound up between adherent coils of intestines? What becomes of that pus? And what becomes of the toxins within the intestinal canal?

Operators who follow Ochsner neglect entirely these intra-intestinal poisons. They wash out the stomach, they withhold food, they avoid cathartics preventing peristalsis by opiates. This quieting of the intestines does lessen the liability to the spread of pus throughout the peritoneal cavity, but it also leaves those pools of filth within the intestines. The patient is poisoned from within the intestines instead of from without. The inside of the intestine has wonderful powers of absorption and this is increased if any obstruction is present, blocking the natural outlet. That these toxins frequently do cause trouble is shown by the migraines, attacks of "biliousness" and dyspepsia, which are relieved by a purge.

Dr. McLaren,[4] at the St. Louis meeting of the A. M. A., reported ten cases of pus collections in the abdomen. He reported them to illustrate his method of rectal drainage, but I want to use them to point out the results of delayed and incomplete work. It would be hard to find cases which show more clearly what conditions you often get from Ochsner's and other methods of delay.

"Case VII.—This was one of the typical non-operative cases of Ochsner in which the abscess was probably going to rupture back into the free peritoneal cavity before the eighth day. In this kind of case on several occasions I have seen the patient suddenly die on the fifth or sixth day. The patient in this case, a little girl, aged seven, was desperately sick; perforation had occurred five days before; temperature was 104; pulse 130 to 140, and of a very bad character; there was general abdominal distention, and excessive bulging through the rectum. One-half pint of pus was evacuated through the rectum. The patient did well until the fifth day after the operation. On the seventh day anterior abdominal section was made, and a large abscess about the appendix, containing gas, was opened. The patient died on the tenth day. This child should have had abdominal section either the same day as the rectal section or not later than forty-eight hours after. I believe that in this case the rectal section prolonged life, even if it did not save it."

Here is a case where the first hour rule would have saved all trouble. As it was, Dr. McLaren himself said that while waiting the little girl would probably have died in the next day or two. He also mentions two or three other cases which actually did die suddenly while waiting, calmly waiting for the time to operate. In this case the fifth day had been reached and things were going badly, but the child still had a chance for an arrest of sepsis, for her life. But instead of trying to get rid of the whole focus, Dr. McLaren tried a rectal puncture; he evacuated a pint of pus. For five days more the child did well, then things went wrong again. A section revealed a separate focus of pus about the appendix. It was evacuated, but too late, the child died. Puncturing above the pelvis, putting a tube into the cul-de-sac, Fowler's position or proctoclysis would have done no more than the rectal puncture; it would have missed one of the abscesses. But if Dr. McLaren had done a complete operation in the first place; if he had opened up freely in front, cleaned out the pus pockets, freed the adhesions, removed the appendix and drained, he would have saved the life. He admits as much himself.

"Case VIII.—The patient, a boy, aged seven, who had been sick for ten days, was seen with Dr. Buckley, of St. Paul. This was much the same kind of case as the one just preceding. Temperature was 99; pulse, 120. There was decided bulging of the anterior rectal wall, which was first opened and a half-a-pint of thin watery, offensive pus let out. The patient was much better for two or three days; on the fifth day he was worse again. Temperature was then 101; pulse, 120. There was a mass in each loin; these were opened and drained in front, and the appendix, which was a long one and ran over the brim of the pelvis, was removed. the patient then promptly recovered."

This case is similar to the last. The doctor did his rectal puncture on the tenth day, patient improved for two or three days, then he had to open above, remove appendix and evacuate masses in both loins. The patient promptly got well. If Dr. McLaren had done at first what he did in the second place he would have saved his patient five days of sepsis and a second anesthetic.

"Case IX.—The patient, a boy, was seen by Dr. Campbell, of South St. Paul. The case was one of ordinary appendiceal abscess, seen first on the seventh day. The abscess was opened above behind a gauze tampon, and one ounce of thick pus was let out. I could not distinguish the appendix or find an enterolith. After closing the wound and putting in a drain, and just before I sent the patient from the operating room I made

a rectal examination to find a separate pelvic abscess containing fully three ounces. This separate abscess, not discovered in the earlier stages of the operation, was opened into the rectum. The boy made a perfect recovery and has been well ever since."

Dr. Price would have handled this case by breaking down the abscess wall in the first place and separating all adhesions. He would thus have found his second abscess cavity without rectal examination; he would also have found and removed the appendix and the recovery would have been quicker and more complete than it was. Cases like this are very common, collections of pus under the liver and in the pelvis are very frequently overlooked by the man who fails to break up adhesions.

"Case X.—The patient, a boy, aged six, was sent by Dr. Boothby, Hammond, Wis.; he had suffered from perforation of the appendix eight days before. Pathologic condition was one of acute, suppurative, perforative, gangrenous appendicitis. On July 19, 1909, the appendix was removed after the abscess was opened; a drain was put through a stab just outside the wound; on the seventh day the patient was found not doing well; temperature was 101. That night the patient was uncomfortable, crying most of the time from distress in the rectum. Rectal examination showed fluid in the recto-vesical pouch. On the eighth day a rectal section was made, and half-a-pint of clear serous pus, followed by two drams of thick pus, was evacuated, a small rubber drainage-tube was inserted in the opening in the rectum. The following day the boy felt much better; on the third day after the second operation the tube came out and was not replaced. The patient recovered, and has been perfectly well ever since."

The trouble here was insufficient drainage. If, instead of a wick through a stab wound, the regular cofferdam drain had been used, there would have been no reaccumulation of pus and no need of rectal puncture later.

"Case XIII.—C. A., patient of Dr. Rider, of Shakopee, was operated on by my partner, Dr. Ritchie, in his second attack, seven days after perforation. The appendix could not be found; the abscess was opened and drained. On the ninth day after operation the patient began to have pelvic distress and a sense of pressure in rectum. Rectal section was made and a pint of very offensive pus was evacuated through the rectum and the abscess drained. Three months later the appendix was removed. The patient recovered and is now perfectly well."

The trouble again was insufficient drainage and failure to remove the appendix. Removal of appendix, separation of adhesions and complete drainage would have given a prompt recovery after the primary operation and have avoided the need of the secondary.

"Case XIV.—F. A., aged six, patient of Dr. Rudolph, of Ellsworth, Wis., suffered with several mild attacks of colic lasting about half-a-day each. The present attack began with very severe pain and vomiting seven days before I saw the case. The pathologic conditions were acute, suppurative appendicitis; localized pelvic abscess, fluctuating through the rectum; localized collection of pus just outside of McBurney's point; eight ounces of thick offensive pus; no enteroliths. The operation consisted: first, of rectal section, which let out four ounces of thick, offensive pus; a drainage-tube was then put in and this was immediately followed by laparotomy. The abscess to the outer side of the cecum was opened, and drained with two cigarette drains through stab just outside of the wound. One month later the patient came back with another attack of appendicitis; this time the appendix was removed; the patient promptly recovered and has been perfectly well ever since."

Practically exactly same criticism could be made, as in last case.

I feel that I owe Dr. McLaren an apology for taking his cases and handling them in this way, but it is so seldom that bad results are published and his cases illustrate so perfectly just the points that I want to make that I feel sure he will pardon me in consideration of the good that may be done to the profession and to the community at large by a study of his cases.

In considering these cases I have made several remarks as to the way in which I thought they should have been handled. Now I want to go a little more into detail in describing the Price method of handling either localized or general peritonitis. In localized cases he opens the abscess cavity, cleansing as he goes, either by mopping or by flushing; he separates all adhesions finding the appendix or other member at fault and removing it, he then continues separating adhesions until the bowels are fully freed, until he can "look at both sides of the mesentery," as he says, and makes sure that there are no other pus pockets overlooked; he then cleans again and drains. If, instead of a localized, he has a more general peritonitis then his treatment is more general. Instead of a lateral, make a central incision, so as to reach more easily the greater extent of bowel, evacuate all pus pockets, free all adhesions, remove the offending member and make a peritoneal toilet. This means a thorough flush with hot saline solution, delivering the intestine outside abdominal wall, if necessary, so as to reach thoroughly lines of pelvis and liver. The solution should be so hot as to burn your hands. If bowel is much distended with gas and poisonous fecal products, incise intestine, evacuate contents and then suture. This may have to be done in several places, but it will give you a soft, pliable bowel, one easily handled and one whose mucous surface is already drained. Then replace the bowels and place the cofferdam drain. Making and placing the drain properly is

a very important part of the treatment. It is described by Dr. Kennedy,[5] Dr. Price's assistant, as follows: "This cofferdam drain is a solid, cylinder drain, and is not composed of a number of flying buttresses or strands of gauze inserted indiscriminately among the viscera. To know anatomically that there is a dependent point, and then to insert a drain in the hypothesis that it should be full of pus, is no part of our surgery. The insertion of a cofferdam drain is a perfect piece of civil engineering. If the pelvis is to be drained, all viscera are held above the ileo-pectineal line and the gauze, as a solid wall, fills the pelvis. The right groin is drained in the same way. The viscera are retracted toward the median line and held back of the left hand, while the cofferdam is inserted; thus, in the very bad conditions, the dam or drain extends from the left side of the pelvis around to the ascending colon. If the bowel is black and disorganized it is well to produce an artificial fistula and stretch the bowel to the drain or parietes. One of the reasons that gauze has been abandoned as a drain is that operators have inserted it indiscriminately between the viscera; post-operation obstruction following. As soon as the gauze was removed, the obstruction was relieved; the reasoning which would follow is apparent." No stitches are taken in the abdominal incision; it is completely filled with the gauze drain.

Van Buren Knott[6] reports 161 cases of appendiceal abscess operated upon in the last two years in all of which he broke up all adhesions after the method I have described. He had two deaths and reports that the convalescence was much smoother and more rapid than when he used any other method.

What method could be imagined more complete than this I have described? Many operators say that complete operations and toilets in peritonitis are now criminal. They kill patients. We have outgrown them. Did they kill Dr. Price's patients? In his last 500 cases of diffuse and general peritonitis he had nine deaths. Mortality, 1.8 per cent.

In this paper I have tried to show (1) that the greatest prophylactic we have to peritonitis consists in early operation in the primary diseases. (2) That the waiting and do little policy in peritonitis frequently produces very complicated conditions and disastrous results. (3) That it is perfectly possible to do thorough and complete work in peritonitis as in other intra-abdominal conditions and that the lowest mortality in the world has been obtained by that method.

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SOME OBSERVATIONS ON THE COLON.*

By CLARENCE E. COON, M.D.,
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IN modern medicine it is not sufficient to diagnose neurasthenia or nervous prostration and advise some of the treatments of rest or bromides or other sedatives; it is not sufficient to agree with the patient that he is constipated and suggest some new cathartic; it is not right to diagnose chronic rheumatism and prescribe the salicylates or iodides, and so with a long list of chronic ailments, we have no right to be superficial, we must be more specific, we must adopt every means in our power to get at the underlying cause.

Some observations on the colon as a probable underlying cause of very many chronic symptoms is the thought I wish to present to you.

Previous to the advent of the Rœntgen ray, very little of value was known about the position and activity of the colon. A lot of attention has always been given to the stomach and small intestine, but until quite recently not much notice has been taken of the large intestine; the process of digestion and assimilation in the stomach and small intestine has been carefully studied; the function of the colon seemed apparently to be that of a reservoir placed there for the comfort of its owner, to be emptied at any convenient time, and that it did not play an important part in the economy.

Every X-ray operator was early called upon to assist in the diagnosis of stomach and intestinal lesions, no request was ever made for data concerning the colon. A few years ago it occurred to me that it would be of some interest to follow the course of the bismuth through the digestive tract by means of frequent radiographs through a period of twenty-four to thirty-six hours. After making this extended examination of several different individuals each of whom had some probable stomach lesion and in each and every case finding the transverse colon located between the level of the umbilicus and symphisis pubis, I began to wonder whether it was ever in the position in which the anatomy tells us it should be. To get more evidence on the subject I selected an adult patient who was in apparent perfect health, no symptoms referable to the digestive tract, entirely free from constipation; I made the usual series of radiographs; the first one showed what is now accepted as the normal shape and size of the stomach, that is—shape like a comma, long axis nearly perpendicular and parallel to spinal column, the pylorus in front of the vertebræ; the bismuth began to leave the stomach within an hour, in two hours (note the short time) bismuth had begun to collect in the cæcum and ascending colon; in three hours all

* Read before the Fifth District Branch of the Medical Society of the State of New York, at Syracuse, October 19, 1910.

bismuth had passed through the pylorus and at four hours all bismuth was in cæcum and ascending colon and had begun to move into the transverse colon; from this point the progress was slow and twenty hours after the bismuth meal the entire large intestine contained bismuth; fluid consistency in cæcum and ascending colon and dry and lumpy in transverse and descending colon and sigmoid flexure. The transverse colon was well down below the level of the umbilicus and the appendix was dilated and contained bismuth. In this case the hepatic and splenic flexures seemed at about the normal level and instead of the normal curve, according to anatomy, between the ascending and transverse, and between the transverse and descending colon, there was in each case a sharp angulation, the beginning of the transverse colon came down almost parallel with the ascending which was held in place by its mesentery; similar relations were shown between the transverse and descending colon, between these two points representing the hepatic and splenic flexures the colon sagged across the abdomen. These observations of a healthy individual have been verified many times since. There are three facts brought out in these examination, which seemed to be at variance with the teachings on the subject: First, the position and direction of the stomach; very much nearer perpendicular than we had supposed from autopsy findings; second, the small amount of time required for the passage of food from the stomach to the large intestine, and third, the position of the colon, particularly the transverse portion.

At the last meeting of the American Rœntgen Ray Society many radiographs of the colon were shown; not one of them showed the colon above the umbilicus; in my personal experience comprising many examinations I have never yet obtained a plate showing the colon in its anatomical correct position; in fact, a moderate degree of sagging of the transverse colon is now spoken of as the normal position.

Until quite recently the literature on the colon has been very meagre, on October 17, 1883, Charles Hennon Thomas read a paper before the Philadelphia County Medical Society, entitled "Downward Displacement of the Transverse Colon; Three Cases with Autopsies." In neither case was the diagnosis made during life; in one case the most dependent portion of the gut was found midway between the umbilicus and symphisis, in another deeply impacted in the cavity of the pelvis and in the third at the level of the umbilicus. The author was unable to find any published reference to a similar condition and says, "The lesion here described seems to be of rare occurrence." A report of Dr. H. F. Formad, of the University of Pennsylvania, dated December 15, 1882, and including over 2,000 autopsies, said he had not observed an instance of like character, and he had looked very thoroughly into the literature of intestinal lesions but did not meet any record of misplacement of the transverse colon.

In 1885, Glenard gave his classical description of visceroptosis and which has since been known as Glenard's disease.

Earlier writers call attention to the hepatic and splenic flexures as probable cause of constipation but do not verify their diagnoses before the autopsy. No mention is made of the transverse colon.

In the *American Journal of Medical Sciences,* in 1898, John B. Shober reports eighteen cases of malposition of the colon, most of them observed at autopsy, this report deals more particularly with displacement of the cæcum and an abnormal sigmoid flexure. One of the cases described in which the diagnosis of displaced cæcum was confirmed at operation, was at various times treated for disease of the liver, for chronic indigestion, for weak heart, for neurasthenia, for nervous prostration, etc.; the patient had been an invalid for sixteen years and during all this time was very despondent.

During the past two years our knowledge of the position and function of the large intestine has been greatly increased by many writers.

In the *Berliner Klinische Wochenschrift,* June 27, 1910, Augsbach, a Russian, says that the statistics seem to show that the sigmoid is the most frequent point of trouble, particularly volvulus. The author's case, however, involved the transverse colon.

John G. Clark, of Philadelphia, in his address as chairman of the Section on Obstetrics and Diseases of Women at the American Medical Association, at St. Louis, June, 1910, took as his subject, "The Surgical Consideration of Congenital and Developmental Defects Leading to Obstinate Constipation." This address has as its theme, exaggerated constipation due to abnormalities of the colon. He says, "Until the advent of the X-ray as a diagnostic agent in enteroptosis clinicians had made little progress over the original discovery of Glenard, for there was no accurate method of determining the organ or group of organs chiefly participating in the visceral descensus. This failure to recognize these conditions probably accounts for the widespread adoption a few years ago of nephrorrtphy, a procedure which captivated many surgeons." This address is published in the Journal of the American Medical Association, August 6, 1910, and deserves careful attention.

Another paper before the Section of Ophthalmology at the American Medical Association, June, 1910, by Hiram Woods, of Baltimore, subject, "Auto-intoxication and Allied Intestinal Troubles as a Possible Cause of Certain Vascular and Functional Disturbances of the Eye."

The opinion of the writer and also of those who discussed the paper was that many of the intractable ocular lesions, those which did not

yield to treatment, were certainly due to absorption of toxines from the intestinal tract.

If we accept as a fact the faulty location of the transverse colon in a large majority of all the people; no matter whether that fault is due to congenital malformation as shown by Clark or to faulty poise of the body as claimed by Goldthwait, or by the probable more frequent cause; lack of attention to the digestive tract and great overloading of the colon; and I fail to see how it is possible that the X-ray and bismuth could give us erroneous information; then we must consider the situation from a mechanical as well as a chemical standpoint.

In the early stages of any ptosis of the colon it is fair to assume that the intestinal mucosa and musculature is normal; that when the food has passed through the small intestine and collected in the cæcum and ascending colon the normal peristalsis does not find it difficult to overcome the slight angulation into the transverse colon, and yet mechanically it must be more difficult to force the bowel contents through an angle than through a curve. When the transverse colon is filled it sags below the horizontal line connecting the hepatic and splenic flexures, the fluid portion of the bowel content is being absorbed; when the middle of the transverse colon is passed the feces are solid, or nearly so, and must travel in an upward direction to reach the splenic flexure, and not in a horizontal or slightly downward direction as shown on the anatomical chart. At the splenic flexure another angle appears. When this angle is passed the ordinary case presents no difficulties and the remaining parts of the colon are nearer the correct position. As the ptosis of the colon increases the mechanical difficulties are increased, of course, the transverse colon may go down to the symphisis and even deeply into the pelvis, the flexures may maintain a fairly normal position or one or both may have its mesentery stretched so that they may be at any position below the normal, added to the mechanical difficulties we surely have the devitalizing effects of purgatives and the absorption of the foul products so that it becomes nearly impossible for the gut to empty itself. If we sum up these features we have a colon way out of the normal position, distended and flabby, incapable of performing its function in anything like a normal manner, all sorts of bacteria have abundant opportunity to grow and produce their toxines, putrefaction, fermentation and decay are the inevitable results; the absorptive power of the gut is increased and all the soluble elements of the rotten mass are taken up and distributed. It seems perfectly reasonable to infer that many chronic troubles may owe their origin to this absorption.

The patient may not have obstinate constipation and yet his trouble may have its origin in the colon; Goldthwait cites a case of progressive crippling arthritis which had been treated as rheumatism for a long time, at operation the colon was found to have areas with adherent plaques of feces, under these plaques ulceration had occurred and absorption of pus products was the result; just as soon as this condition was relieved the patient began to improve and had no further joint trouble.

Appendicitis may be due to faulty position of the transverse colon. Because of the obstruction at the hepatic flexure and the continual deposit of material from the ileum into the cæcum, the cæcum and ascending colon become dilated, as pressure increases the appendix is also distended, its peristaltic action reinforces that of the cæcum and colon in the effort to overcome the obstruction. Long continued efforts will produce congestion, œdema and spasmodic stricture, add to this the activity of the ever present bacteria and the local sepsis and gangrene is easily explained.

In a general way, I believe that we would be much nearer correct in our diagnosis if we told our patient that his digestive disturbance was due to the large intestine rather than to tell him that he had stomach trouble, or dyspepsia, or indigestion. I believe that very many more people are ailing as a result of a ptosed colon than by all other troubles of the digestive tract combined.

The diagnosis was extremely difficult before we had the assistance of the X-ray; the method of inflating the colon with air is not at all accurate, the distention must necessarily change the position; it is not at all strange that early diagnoses were made post-mortem. Autopsy findings do not correspond to the position during life; examination of the position of the colon should be made with the patient standing.

If we keep in mind the fact, as all observers agree, that gastro-enteric toxines seem to have a special affinity for vaso-motor centers it will materially aid us in making a diagnosis; the symptoms, as learned from the patient, are not of great value, the onset has been so insiduous that what he complains of are the results rather than the cause.

The symptoms of auto-intoxication may become manifest only when the system of defense through the intestinal mucosa, liver, etc., becomes weakened. One of the most frequent manifestations of auto-intoxication is urticaria. Alfred Mantle, in the *Lancet,* July 30, 1910, says: "There is ample evidence that in some individuals ingested toxines absorbed in the alimentary canal show the chief evidence of that absorption by changes in the skin, the most familiar case and one easily demonstrable is urticaria." The symptom complex of gout is certainly due to toxæmia of gastro-intestinal origin. A sensitive nervous system is commonly present in those subject to skin affections. Eczema, psoriasis, acne, pruritus and urticaria have all been relieved by attention to the colon. The underlying cause in a very large majority of all cases of so-called

chronic rheumatism will be found in the large intestine. Many forms of neurasthenia are surely due to the effects of the absorbed poisons; a large number of circulatory disorders including atheroma may have their origin here. The list of possible results of auto-intoxication comprises very many of the chronic troubles; much study and observation must be undertaken before definite conclusions are to be drawn, but the evidence seems so positive that one cannot help wondering why this important part of the digestive tract has been so long neglected.

Treatment will be determined by the degree of ptosis and the condition of the patient; the mild cases will require little or no treatment except an increase of exercise; those of moderate degree may be made comfortable and functionally cured by the application of a proper fitting abdominal support plus attention to the diet; severe cases will require surgical intervention to restore the gut to as near normal position as possible.

Conclusions.—The length of time required for the passage of food through the digestive tract of the average normal individual is about twenty-four hours; the X-ray shows us that from sixteen to twenty hours of this time the colon contains this material; that it enters the colon as fluid and leaves as solid; when this time is unduly lengthened, putrefactive fermentation occurs and its products are absorbed.

Second.—Some degree of ptosis of transverse colon does not seem to be incompatible with apparent perfect health.

Third.—That the stomach may be perfectly normal in size and shape and position and the colon be way below its normal position.

Fourth.—At present records seem to show that practically all adults have coloptosis.

Fifth.—That most chronics, and particularly so-called chronic rheumatism and neurasthenia should be given the benefit of a doubt and have the colon located.

Sixth.—That this is a question of sewage disposal which demands your attention; the putrefactive products have been altogether too long a menace to the health of the people.

RABIES AND ITS METHODS OF CONTROL IN NEW YORK STATE.*

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RABIES or hydrophobia, which, of late, has exacted considerable attention in this state, is by no means a disease of recent origin since it seems to have been recognized as a distinct disease before the Christian era. Aristotle wrote of this disease in dogs as follows: "Dogs suffer from madness. This induces a state of fury, and all animals which they bite, when in this condition, become also attacked by madness." Other early writers who refer to this disease are Virgil, Horace, Plutarch and Ovid.

In the first century, Cornelius Celsius recognized this disease in man and called it hydrophobia. The first appearance in this country seems to have been in the latter part of the eighteenth century, but literature of older countries goes to show that this scourge visited different localities of such countries at different periods for the past twenty centuries, with evidences of its specific character.

Nature and Cause.—The nature and cause of this disease, like many other specific diseases, were confusing and misunderstood by scientists and investigators until after the middle of the eighteenth century when leaders in medical and biological sciences (Pasteur probably standing out most prominent of these), determined its specific character. It is regrettable, however, that many laymen still look upon this disease with doubt as to its being specific. It is still more regrettable that this doubt is, in most cases, probably directly or indirectly due to the expressions of such physicians and veterinarians who have not been brought face to face with the dreadful phenomena of this disease. We, however, must expect such opposition until time puts the sciences of biology and bacteriology on a more firm footing.

When we consider that there are still some physicians who doubt the specific character of small-pox and scarlet fever, simply because the bacteriologists have been unable to isolate and point out the specific organism which causes these diseases, then we are not surprised that there would be some disbelievers in a disease that has not been, in any comparison, nearly as prevalent as the two just mentioned. The organism of rabies is probably one of the so-called ultra microscopical organisms. Still it has been proven beyond a shadow of a doubt by experimental inoculation, that it is specific in character.

Again medical men will state that they do not believe that there is such a thing as rabies since they have been in practice for perhaps fifteen, twenty or twenty-five years and have never seen a case. This argument is equally as wanting in logic, since it is very probable that the same medical men would need to admit that they have never seen a case of glanders or leprosy in the human family and I doubt if they would argue that there are no such diseases.

Any one particularly desirous of seeing an individual affected with this awful malady could very probably do so any year by getting in touch with laboratories where this disease is treated.

Again, some are of the opinion that the disease may arise spontaneously and that it is liable to crop out at any time under peculiar and

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favorable conditions. This opinion is probably greatly due to the indefinite period of incubation as well as the number of inoculated animals that may be left in the wake of a dog during the maniacal stage; particularly if much of its furious march has been made during the night when the owners and care-takers of animals would be resting in their beds while their property was being attacked. It would be as ridiculous to believe, with our present knowledge of bacteriology and pathology, that rabies could arise spontaneously, as it would be to believe typhoid fever, tuberculosis or any of the other specific diseases would develop spontaneously; or as it would be for us to believe that we could grow a field of wheat if we did not sow wheat or grow a field of corn if corn were not planted.

Rabies is a specific, communicable disease, which can be communicated to all mammals by inoculation with the specific virus. This specific virus is present in the saliva of animals affected with the disease and is transmitted to other animals and persons usually by a bite. It may, however, be transmitted through the saliva without a bite, if there is an abrasion, in the same manner as any other inoculable disease.

Rabid virulence has also been observed in the upper renal capsules, in the urine, spermatic fluid and lymph. It has been stated by Friedberger and Frohner that the blood is never virulent. The possibility of its being transmitted through the placenta seems to have been established by several observed facts and by few experimental results. This question, however, is yet under investigation. Perroncito and Curito have succeeded in infecting a guinea pig by inoculation of the spinal marrow of a young rabbit which was the offspring of a rabid mother.

A point which is of distinct interest to us seems to have been settled by Nocard as he states he has "never succeeded in transmitting hydrophobia by the digestive tract and even after animals have at different times ingested considerable quantities of virulent nervous matter." Among the experiments which he has made upon this subject, the following is particularly interesting. "Within two months a young fox had eaten, without becoming infected, the brain and spinal cord of twelve rabid dogs. He was, however, not refractory and had not acquired immunity, for later he died from hydrophobia which was inoculated by trefanation." (By making a small opening through the skull into the brain.)

Galtier admits the possibility of infection by the digestive passage, by ingestion of saliva, milk or meat coming from a rabid animal, but no fact has yet been established that ingestion of rabid milk or meat has ever produced the disease. However, the intra-crania inoculation of milk has given positive results.

The apparent lack of danger of milk or a product which might be manufactured therefrom, through the digestive tract, would seem a point of knowledge of particular advantage to us since we are frequently asked as to the danger of these products where a bovine animal develops rabies during the period of lactation.

The idea is quite prevalent that dogs are particularly liable to go mad during the so-called dog days which extend from the first of July to the middle of August. They are called dog days because they cover the period of time when the dog star Sirius is above the horizon with the sun and, of course, have no connection with the disease whatever. All who have made any observation on rabies know very well that the time of the year or the climatic conditions have little or no influence on the disease, other than that in extreme cold weather a rabid dog on his march would not be as liable to come in contact with as many of his own kind, since the latter would be more apt to be seeking shelter during such weather. This is equally true during the season of deep snow, a rabid dog becoming exhausted much quicker and not being able to travel nearly the distance that it could in pleasanter weather.

Period of Incubation.—The period of incubation is very uncertain in its duration. It rarely, if ever, appears by natural inoculation in less than twelve days, although it has been produced by inoculation of fixed virus in a rabbit in six days and it may extend from such a short duration to the period of a year or more. The usual period, however, in a dog is from three to six weeks. This variation in the period of incubation is indeed one of the serious drawbacks in controlling the disease and preventing its spread when once introduced in a territory. The location and character of the bite in the human family has been found to influence materially the period of incubation. Since it is now pretty well agreed upon that the virus travels along the course of the nerves rather than by means of the blood current, the nearer the point of inoculation is to the nerve centers the shorter the period of incubation. To illustrate, we know positively that an inoculation or a bite about the face or head is always attended with a much shorter period of incubation than one on the extremities. We also know that the severer the inoculation or bite, tearing into the muscles and extending deeper on the nerve structures, the surer the infection and the shorter the period of incubation. Helman states that: "Hypodermic inoculation gives more numerous positive results in emaciated animals than in those in which the integuments are well covered with adipose tissue."

Symptoms and Diagnosis.—Symptoms differ slightly in different animals. We will take the dog as a subject. In symptoms we recognize two forms of the disease, one known as the furious and the other as the dumb or paralytic, which, however, usually succeed each other in fully

developed cases; yet the furious phenomena may be entirely omitted and again the victim may die in the early furious stage so that the paralytic stage does not appear.

The prominence of the one form or another probably depends greatly upon the location of the point of inoculation, the character of the injury and the virulency of the virus. The premonitory symptoms are in the main the same in both types. Fortunately if we are familiar with the disease it often enables us to recognize it before the period of extreme danger.

It is well to impress upon the public the fact that the name hydrophobia is a misnomer in the dog and that it is absolutely erroneous to believe that dogs would not go near water, since it is not an uncommon thing to see such an animal ford a creek and readily attempt to drink. While the symptom of fear of water is usually a marked one in the human subject, it is never present at any stage in the dog. Even after the animal's throat becomes completely paralyzed it will attempt to drink water.

The symptoms of the furious form are briefly, as follows:

First Stage.—Change of disposition and habit. This is perhaps one of the most constant symptoms we have. A dog that has been particularly playful and affectionate is apt to become indifferent or sullen. A house dog that has been accustomed to caresses and attention will probably seek seclusion in dark corners under a couch or table and the like. Dogs that have been what we term out-of-door dogs or indifferent in nature show as decided a change in disposition in courting attention or something equally as noticeable. There is also apt to be a morbid appetite, searching and scratching about, licking cold stone or metal, gnawing at the point of inoculation if it be in a region that can be reached with the mouth, hideous howling, baying at the moon, melancholy, hopeless expression of countenance and perhaps not exhibiting up to this time any disposition to bite. Another symptom which is particularly noticeable when present is the change in voice. Different writers have tried to describe this change and we convey some idea when we say that it is possibly a half bark and half howl or cry of distress. Any or all of these symptoms may appear during what we term the first stage of the furious form.

Second Stage.—The second or maniacal stage is ushered in by more pronounced manifestations of the above symptoms, everything becoming gradually and greatly exaggerated; insomnia, restlessness and delusion, watching and snapping at things. The infected animal may now be excited into a fury by annoying it or shaking a stick at it. A pretty reliable test ordinarily at this stage is the bringing of another dog into its presence, which is quite apt to make the rabid animal act very furious. As the disease advances there is more and more of a haggard appearance. The eyes become reddened and even a careless observer will note the dejected look. The disposition is now of a wandering character. The animal wanders long distances, perhaps ten, twenty or thirty miles and snapping as it travels at man or beast. If not interfered with on its tramp or if exhaustion or death does not overtake it, it is quite apt to return. In its wanderings the tendency is to attack every dog in sight without much warning, growling or barking, and it is peculiarly characteristic that when attacking a dog it does so slyly and not with the ordinary noise of the fighting well dog. It shows no great desire to fight, but exhibits more of a feeling to snap at and worry another dog for a minute and then go on. It seems to have a preference for biting dogs rather than other animals or persons. In other words, it is not apt to deviate much from its course in order to attack a human being. It is even probable at this time that if it were in reach of its master's voice, that its actions could be controlled to a limited degree, depending upon the discipline the dog had been accustomed to. It is not an uncommon thing to see a confined rabid dog even in the maniacal stage very much soothed and quieted by a visit from its master.

The premonitory stage and maniacal stage have perhaps consumed a period of from two to five days and in the course of a day or two more, or occasionally less, the disease advances into general paralysis or what is termed the paralytic stage and death. The writer has seen a few cases when the duration of the disease extended over a period of nine or ten days.

Dumb or Paralytic Rabies.—The striking peculiarity is an omission of the preliminary furious stage as the disease merges into paralysis after the premonitory symptoms. These cases tend to immediate prostration and weakness and dullness or stupor. Paralysis of the masseter muscles and dropping of the lower jaw seems to be, perhaps, one of the most notable symptoms after the first stage. From this the paralysis extends to the hind limbs and then to the forelegs and trunk. The dog has a decidedly haggard look with the lower eyelids dropping, lying quiet and helpless until relieved by death which comes usually in one or two days.

It will be seen from the study of these symptoms that the dog which has acted perfectly well and suddenly acts strangly, perhaps falling down and frothing at the mouth, etc., is not the mad dog but is far more apt to be affected with epilepsy or some similar benign complaint, and it is equally as important to note with care the strange action of any and every dog in any district where rabies is prevalent or where there seems to be a possibility of infection.

Post-mortem.—In rabies there are no absolutely characteristic post-mortem findings. The stomach has perhaps more significance than any other organ examined with the naked eye. The

mucous membrane of this organ is frequently congested, and in some cases marked inflammation is present. Foreign bodies, as sticks, straw, coal, stones, etc., are sometimes present, and an absence of food, couples with an authentic history would strongly indicate that death had been due to rabies. Closer observations sometimes reveal meningeal congestion; or redress of the pharynx or larynx. Again a negative post-mortem with a history of rabies is always suspicious.

Laboratory Diagnosis.—Microscopical examination has recently largely superseded animal inoculation. The latter method, while of great value when carried on carefully, has the serious disadvantage of delay. Microscopical examination of the nervous system had its origin about 1875. Babes, in 1887, described some vascular changes along cerebro-spinal system. Van Ge, Huchen and Nelis, during 1900, described changes in ganglionic cells being most marked in the plexiform ganglia, which meant much to the medical world in the age of rapid diagnosis of rabies.

In 1903, Negri, of Italy, described what are now known as Negri bodies. The constancy of these bodies found in the hippocampus major, and the association of these bodies with rabies has been confirmed by many investigators. Moore, of Cornell, states that, "if these bodies are not the cause of rabies, they are surely a specific degeneration resulting from the disease."

Method of Control.—Since rabies is almost always caused by a stray dog which suddenly appears in a community biting dogs and other animals, perhaps persons, the only method of merit known to-day to prevent the spread of this disease is confinement and seclusion or muzzling the dogs in the exposed territory. To show what an effective remedy muzzling is, it is interesting to note the data furnished by Great Britain. In that country the number of rabies cases reported for each year during a period of thirteen years is as follows:

Muzzling not required.				
1887,	number	of	cases	217
1888,	"	"	"	160
1889,	"	"	"	312
Muzzling required.				
1890,	reduced	to	129	cases
1891,	"	"	29	"
1892,	"	"	38	"
Muzzling not required.				
1893,	number	of	cases	93
1894,	"	"	"	248
1895,	"	"	"	672
Muzzling required.				
1896,	number	of	cases	438
1897,	"	"	"	167
1898,	"	"	"	17
1899,	"	"	"	9

a reduction, as will be seen by statistics in the period of four years, from 1895 to 1899, from 672 cases to nine cases and I understand by this method the disease has now been completely stamped out. This has proved positively that dogs are the greatest carriers of rabies and by controlling the dogs we control the disease.

Methods in New York State.—When the presence of a supposed rabid dog is reported in a locality, such report is immediately investigated. If the animal has died or has recently been killed, the brain is taken, and, if in a fit condition for examination, is sent to the State Veterinary College, at Ithaca, where an examination is made. If the Negri bodies are found the case is reported positive to the one sending the brain, if such person is known or if the container has been properly marked, and a similar report is also sent to the Department of Agriculture. If no Negri bodies are found animal inoculation is resorted to for verification.

The question of the necessity of a quarantine is immediately investigated, which depends somewhat upon whether or not other animals have been bitten or exposed. The method pursued for getting such information is by communicating with the local health officer and the assistant commissioner of agriculture having jurisdiction over that territory; and if the facts warrant it, upon their recommendation, the Commissioner of Agriculture immediately lays quarantine upon such area as seems advisable.

Chapter 352 of the Agricultural Law, as amended, reads in part as follows:

"If the Commissioner shall lay a quarantine upon a city or any portion thereof, he may call upon the Commissioner of Public Safety and the Police Department of said city to enforce the provisions of any notice, order or regulation which he may prescribe within the quarantined district and all expenses so incurred in enforcing the quarantine any town, village or district other than a city he may call upon the sheriff, under sheriff or deputy sheriff, to carry out and enforce the provisions of any notice, order or regulation which he may make. All expenses so incurred shall be a county charge."

As soon as it has been determined that a quarantine is necessary for public safety notices are at once printed and sent to the proper officials for posting. Such notices state in part:

"*First.*—That within this district all persons who own, have charge of or harbor dogs shall so seclude, confine or muzzle such dogs as to make it impossible for such dogs to bite or inoculate other animals or persons. If a muzzle is used it must cover the mouth.

"*Second.*—That no person shall take or assist another to take a dog outside the limits of the above described district and that all persons within the above described district shall take such precaution as may be necessary to prevent such dog from going or being taken outside the

limits of the above described district and as may be necessary to prevent the spread of the disease of rabies.

"*Third.*—That any dog found in violation of this order and seized and confined under the provisions of the State Law shall be cared for in a humane manner and not released to any person except upon a written order from the Commissioner of Agriculture or his duly authorized agent."

The notice also reads, in part, that "The Agricultural Law provides that any person may catch or confine, or cause to be caught or confined, any dog found within the quarantined district during the pendency of this quarantine, in violation thereof; that if a dog which has been seized and confined is not found to be affected with the disease known as rabies, it may be released to the owner upon the payment of $10; that if such penalty is not paid within three days after such dog is seized and impounded, or if it is impracticable, after reasonable effort, to catch and impound such dog, any person may kill or cause such dog to be killed."

While these notices are being printed and posted the authorities in all the respective communities are advised by the Department of Agriculture to employ all possible measures to ascertain what, if any, animals have been exposed to contact by the rabid dog or animal, having all such animals at once destroyed and if not destroyed to have them so confined and secluded for a period of at least one year, that should they develop rabies, it would be impossible for them to inoculate other animals or persons. If a person has been bitten by a positively rabid dog sufficiently serious to suspect the possibility of inoculation and should ask our opinion as to the advisability of taking Pasteur treatment, we would gladly give such opinion, but this is a matter of advice which ordinarily should come from the local health officer or the family physician.

There is a point which we wish to advise positively on and that is that in many cases where a person is bitten by a dog that to all appearances is normal the one thought seems to be to have the dog destroyed, some taking the precaution to have the brain examined, others caring or knowing nothing about a microscopical examination, simply believing that if the dog's life is ended the possible danger of hydrophobia developing in the one bitten is removed. This, indeed, is a serious mistake and we do not advise the destruction of the dog for many reasons. It is the custom of the department, when we receive word that anyone has been bitten by a dog, to immediately procure the dog and confine it in a thoroughly safe kennel for observation. It is observed daily for at least twelve days, and if, at the end of that period, no symptoms of rabies are exhibited, the person bitten need have no apprehension of the bite causing the disease since, from the most recent experiments by many, (notably Nicolas), the saliva has never been found to be virulent more than eight days prior to the development of symptoms in the dog. Therefore by holding the dog under observation for twelve days we are taking safe precautionary measures. No known case is on record where a human being has developed rabies after such precautions have been taken. If, at any time during the period that the dog is under observation, it shows even symptoms of a positively suspicious character, it is at once destroyed and the brain promptly sent for an examination. Another advantage is, that had the dog been immediately dispatched and its brain sent for a microscopical examination and the examination proved negative, animal inoculation might then be necessary for further verification, and if so this would mean at least two weeks suspense to the one having been bitten, before results of the inoculation could be determined. Another very important point to be remembered is that those doing laboratory work tell us that to get the most frequent positive results with the rapid methods of diagnosis, it is essential that the animal be allowed to die naturally with the disease or be destroyed only after the symptoms have appeared. While it is true that the Negri bodies are present much earlier in the disease than the changes in the ganglia, still the failure to find Negri bodies in a dog's brain that had not yet showed symptoms of rabies might be misleading, as well as the finding of such bodies in the brain of an animal which, at the time of death, seemed in perfect health. But even if, upon the examination of a brain prior to the appearance of the symptoms the case is pronounced positive, the dog, at the time of death, showing absolutely no symptoms, it does not seem to me that, with our present knowledge of the disease, we are justified in putting a poor parent to the expense, or subjecting a frightened child to the ordeal of the Pasteur treatment if it can be avoided. Had the dog been held for proper observation, the necessity or the non-necessity of this could have been determined positively.

Preparing a Brain for Examination.—The next very important question is the proper preparation of the brain for examination. It is very essential that the brain reach the laboratory in a condition fit for a rapid diagnosis, because, if it is not it will be necessary to resort to animal inoculation, and there are cases on record where the disease has developed simultaneously in inoculated experimental animals and the individual bitten.* Always remember that if a brain is badly mutilated either by shooting the animal in the head, as is sometimes done, or by a careless removal of the brain, it causes a delay at the laboratory to get the brain in proper condition to examine, if it can be examined at all. This, of course, is equally true of a brain that is

* Moore.

badly decomposed. In cold weather probably the safest way is to cut off the head and forward it in toto to the laboratory; but during hot weather such a procedure cannot always be considered safe, even though it is packed in ice if the journey is long. Perhaps the most satisfactory method is to remove the brain carefully and put it in a jar containing pure commercial glycerine, having enough of glycerine to immerse the brain wholly, then packing this jar or container carefully in a box and marking plainly and sending by express to the New York State Veterinary College, at Ithaca. Examinations are made there without charge to the sender, which is indeed an advantage which I fear is not appreciated by all of us as much as it should be.

Statistics compiled to April 1, 1910, showed rabies to exist in 16 counties and the State Department had quarantines in two villages, seven cities and 51 townships. There have been, during the entire year, 103 towns, 15 cities and eight villages under quarantine, located in 29 different counties.

During the years 1908, 1909 and 1910 to date, the records show that 105 persons have been bitten by rabid animals, of which 12 have died; 10 horses bitten, of which five have died; 68 cattle bitten, of which 54 have died; 54 sheep bitten, of which 38 have died; 11 swine bitten of which 10 have died. This list does not include the hundreds of dogs that have died of rabies or have been killed because of showing symptoms of the disease, as well as the number that have been exposed and might have developed the disease, had they not been destroyed as a matter of precaution. Statistics relative to deaths from rabies in human beings were obtained from the New York City Department of Health. Statistics from the New York State Veterinary College show that during the year 1908 the total number of examinations made for the diagnosis of rabies was 315, of which 188 were positive. 94 negative and 33 undetermined. Similar data for the year 1909 shows 583 examinations, 283 of which were positive, 260 negative and 40 undetermined.

Pasteur Treatment.—While the functions of the Department of Agriculture are to control infectious or contagious diseases of domestic animals, still we are constantly receiving inquiries as to the merits of the Pasteur treatment and where and how it can be procured. As to its efficiency, suffice it to say that the Pasteur treatment has reduced the mortality of those bitten by rabid animals from 16 to 20 per cent. to a fraction of 1 per cent.

As has been mentioned, in those cases where the bites are about the arms or face the period of incubation is much shorter and the mortality is much higher, having been estimated by different writers anywhere from 50 to 80 per cent., since the treatment requires from two to three weeks and it is considered that at least two weeks are necessary after treatment is completed, for the heighth of immunity to be established. Therefore, all deaths that occur during the course of treatment or within two weeks after should not condemn the treatment as it is not applicable, the period of incubation being too short for the virus to have the desired effect before the symptoms appear.

This class of cases has caused faithful investigators to try to improve upon our present methods. Experiments with what is termed a simultaneous method, which consists of injecting the serum from an immune animal and a strong virus at the same time, is reported as giving good results in a few cases after the symptoms have appeared. This, however, is purely in the experimental stage and should not be commented on in any way positively until more is known about it. The present method is a repeated subcutaneous injection of a virus, which is a graduated dose of an emulsion of spinal cord of a rabbit which has been inoculated with rabid virus and allowed to develop the disease, the spinal cord then having been treated by a process to control its virulency, beginning with a very mild virus and injecting with a stronger one each time until say from 14 to 21 injections have been introduced, depending upon certain conditions in individual cases. There are institutes which are prepared at all times to administer this treatment and it is also well to know that the treatment can be furnished from the health department of New York city by being sent daily to the local health officer or the family physician, thereby making it possible for the patient to be treated at home. The law still further provides that for those needing treatment and who are too poor to pay for it, the county shall take charge and pay for such treatment.

Bauer* has given us his observation on 447 fatal cases of human rabies and I herewith append them as the periods of incubation are instructive. Of these cases there died after the bite in from

12 to 25 days	33	persons
26 " 30 "	27	"
31 " 35 "	35	"
36 " 40 "	35	"
41 " 50 "	71	"
51 " 60 "	40	"
Over 60 "	206	"
Total	447	"

As will be seen by statistics here furnished, New York state has suffered from a severe epidemic of rabies during the past two or three years and that if we are to stamp out this disease as they have in other countries we will all need to co-operate and follow the system that has been adopted by countries which have been success-

* Moore in reprint from *New York State Journal of Medicine*, February, 1909.

ful in handling the disease until a more simple and better methods can be determined later, if possible.

A CASE OF HODGKIN'S DISEASE—CASE HISTORY WITH CLINICAL FINDINGS.*

By J. A. LONGMORE, M.D.,
BROOKLYN, N. Y.

N. K. Male. Age 22. White. Married. Occupation, machinist. Nativity, United States.

1. *Family History.*—Father died of nephritis; mother is now suffering from the same disease; three brothers and three sisters are all living and in good health.

2. *Previous Personal History.*—Had measles when a child and malaria thirteen years ago; otherwise well until beginning of present trouble; no venereal history.

3. *Present Trouble.*—Between five and six years ago patient noticed that the glands of his neck were enlarged, when first discovered the glands on both sides were involved. These glands grew in size for about eighteen months, during which time the axillary and inguinals became enlarged. During all of this time he complained of no other symptoms; no anemia, no loss of weight or strength, no ill health, nor does he remember having had any local inflammation preceding the glandular enlargement, no inflammation of his throat, eyes, ears, or nose.

The tumors reached their maximum size at the end of about eighteen months. During the subsequent three years the condition of the glands remained about the same; however, his general health failed, and during the past six months he has lost weight, strength and color quite rapidly. His weight six months ago was 150 pounds; present weight, 120 pounds; a loss of 30 pounds. For about one month he has suffered from anorexia, constipation, alternating with an occasional attack of abdominal pain and diarrhœa, hemorrhoids, fever, night sweats, dyspnœa on slight exertion, weakness, cough with the expectoration of mucus, which has occasionally been blood stained.

4. *Status Presens.*—Patient is emaciated, pale and anemic, almost cachectic; his lips, gums and tongue are very pale and bloodless; tongue coated, slightly enlarged and indented by teeth.

Temperature (2 P. M.), 99 degrees; respirations, 24; pulse frequent, 120; hypotension, systolic blood pressure, 110 mm.; diastolic blood pressure, 95 mm.; superficial glands enlarged, some are soft and elastic, some round, others oval, many discrete, smooth and clearly palpable; in the neck many are fused into harder, irregular masses as large as a hen's egg. The swollen glands are painless and not tender to touch, none have ever suppurated, no single gland that can be palpated is larger than a hickory nut. The overlying skin is freely movable. The cervical glands are the ones most prominently involved.

Heart.—Size about normal, no murmurs.

Right Lung.—There is dullness, increased vocal and tactile fremitus, broncho-vesicular breathing, crepitant and sub-crepitant rales over upper lobe. Impaired resonance, slightly increased vocal and tactile fremitus, prolonged expiration, a few crepitant and sub-crepitant rales over middle lobe.

Left Lung.—Impaired resonance, increased vocal and tactile fremitus, rough inspiration, prolonged expiration, and a few crepitant rales throughout upper lobe.

Abdomen.—Slightly distended and somewhat tympanitic. Liver and spleen normal size.

Urine.—Amber, acid, clear, sp. gr. 1,026; albumen, a trace; no sugar; urea, 10.2 gr. to oz.; indican, normal; microscopic examination after centrifugation did not show the presence of any casts, a few amorphous urates.

Blood Examination.—Hemaglobin, 65 per cent.; erythrocytes, 3,980,000; leucocytes, 14,000; lymphocytes, 36 per cent.; polymorphonuclears, 60 per cent.; large mononuclears, 3 per cent.; œsinophiles, 1 per cent.

The blood examination, therefore, shows a considerable degree of anemia, a moderate leucocytosis, with a relative increase in the number of lymphocytes and a diminution in the number of polymorphonuclears.

Repeated examinations of the sputum during the past month did not reveal the presence of any tubercule bacilli.

In 1905, while in Detroit, this patient had a superficial gland removed from his neck and sent to the University of Michigan for examination; this was reported Hodgkin's disease.

This patient has been under treatment much of the time since he first noticed the glandular enlargement, having taken "some form of arsenic." He thinks that it has done him little or no good, nevertheless, he has now lived much longer than the average duration of the disease. During his stay in the Long Island College Hospital and while under treatment at the Polhemus Memorial Clinic he was given Fowler's solution, in rather small doses, however, for he was unable to take more than ten minims three times daily without gastro-intestinal disturbances. His general condition improved, but there was no apparent change in the glands. While in the hospital he ran a peculiar type of fever, febrile periods of a few days, alternating with a few days on which the temperature remained normal.

As for the diagnosis in this case, the patient came to the Polhemus Memorial Clinic with the diagnosis ready made. We simply verified it. Of all types of glandular enlargement the one most often mistaken for Hodgkin's disease is, I believe, tuberculosis. From a clinical examination alone the enlarged glands in this case could

* Read before the Section on General Medicine of the Medical Society of the County of Kings, October 28, 1910.

have been, I think, pretty positively differentiated from tubercular glands.

They are firm, but elastic, show little tendency to become matted together; they are not attached to the skin; not painful or tender on pressure, show no tendency to break down, and the adenitis is general.

To establish the diagnosis, however, the removal of a superficial gland for microscopical examination is the most rational procedure. By this method a diagnosis can be arrived at with absolute certainty.

Lymphatic leukemia would, of course, be difficult, or impossible to differentiate, without a blood examination. Nevertheless, a careful study of the blood will in all cases of lymphatic leukemia lead to a correct diagnosis.

In Hodgkin's disease, the blood picture seems to offer nothing characteristic, the blood changes are inconstant; in many cases, as in this one, there is a relative increase in the number of lymphocytes, and a diminution of the polymorphonuclears, while the total number of white cells is not essentially increased.

The various types of sarcoma of the lymph nodes usually cause pain and grow much more rapidly than the tumors in this case, then again the tumors infiltrate the surrounding tissue, involve the skin and break down and suppurate.

Tuberculosis is by far the most common secondary infection in Hodgkin's disease; considering this fact in connection with the history, symptoms and physical signs, this case seemed at first to justify the suspicion that the patient was suffering not alone from Hodgkin's disease, but also from pulmonary tuberculosis. However, the absence of a positive von Pirquet cutireaction, the absence of tubercle bacilli in the sputum, after repeated examinations, considered together with the fact that the patient was already suffering from Hodgkin's disease, a disease which may affect any organ or even tissue of the body if it normally contains lympoid tissue, would seem to warrant the exclusion of pulmonary tuberculosis and justify the diagnosis of Hodgkin's disease alone, with extensive secondary growths in the lungs, these growths, in all probability having started in the masses of lymphoid cells scattered throughout the lungs about the bronchi.

CHRONIC GASTRO-INTESTINAL DISORDERS IN OLDER CHILDREN.*

By FRANK VANDER BOGERT, M.D.,
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CHRONIC disturbances of digestion in children so closely simulate in their symptomatology and so often complicate, or are secondary to, other chronic conditions, that it is only by means of the most carefully taken histories and thorough physical examination that we are able to exclude the more serious conditions, or to determine the significance of the alimentary disturbance when a complication exists. As time goes on, more and more importance is being attached to the part played by the gastro-intestinal tract in the production of ill-health. Delicacy, lack of vigor, incomplete bodily development, wasting, and muscular weakness may all be definitely enough attributed to lack of nourishment, due to the inability to digest, and to the imperfect metabolism.

Most of the functional nervous disorders of childhood are now believed to be dependent upon gastro-intestinal toxemia. In a paper read before the National Educational Society, at its Boston meeting in July, the statement was made that "We have learned that all of the so-called naughtiness of children may be merely danger signals indicating disturbances somewhere." This is undoubtedly true, and it is a great satisfaction to know that educators are coming to realize the absolute dependence of mental activity upon physical health. The influence of autointoxication in the production of certain vascular and functional disturbances of the eye is now a practical certainty; the lids, conjunctiva, and the ciliary muscles being the parts affected.

The etiology of the gastro-intestinal conditions themselves is not difficult to appreciate; Fischl, in Phaundler and Schlossmann's "Diseases of Children," says that chronic disturbances of digestion in older children begin usually in infancy, dating from mal-nutrition, or due to residual weakness of digestion. This is undoubtedly true of many of the cases which give a history of bad feeding from birth, or of inability to digest in infancy. Judging from my own experience, however, a very large proportion of cases have their origin later in life, in improper feeding after the first year. It is rare at the present day to find a child in the first decade of its life who has been fed with any attempt at reason. All sorts of indigestible foods are given, foods are improperly cooked by all classes, although probably more frequently among the poor who, on account of the high cost of living, must render the poorer cuts of meat more palatable rather than digestible. Cereals and starchy foods, which must necessarily be thoroughly cooked to fit them for the digestive process, are often eaten comparatively raw on account of the cost of fuel, especially during the summer months when a fire is more of a luxury than a necessity. I had this to contend with during the treatment of one of my most interesting cases during the present summer. Among the poor, also, children must eat the food prepared for the adults and at the adults' table where temptations are greater. Improper preparation, however, is a cause of digestive disturbances among all classes. It is doubtless true, as suggested by Dr. Kerley during a discussion on this subject at the last

* Read before the Fourth District Branch of the Medical Society of the State of New York, at Schenectady, September 27, 1910.

session of the American Medical Association, that most mothers are not lazy, but would willingly feed their children properly were they taught how to do so. It is not always the ease of obtaining the food that leads a mother to give it, but rather the inability to prepare something better. It is up to us as physicians to educate them in this direction. The most pernicious of all dietetic habits, I think we are safe in saying, is that of eating between meals, encouraged by the soda-water and ice-cream establishments, which are, in my opinion, as great a menace to the health of the child as is the saloon to the adult. This habit of eating between meals is often brought about by an effort on the part of parents to nourish a child whose digestion has been upset by improper regular feeding. The patient is urged to eat at irregular intervals to keep up its flesh and strength, no rest being given the stomach to recuperate its lost powers. A point that might well be emphasized here, I think, is that food, whether digestible or indigestible, should be given only at regular intervals, plenty of time being allowed between feedings to insure complete digestion and the establishment of an appetite. To the list of causes of these disorders may be added the giving of solid foods before the child's digestion is in condition to take care of them, and improper mastication.

The symptoms, for the relief of which these children are brought to the physician, may be considered under three groups:

First.—Those attributable to the diseased condition of the digestive tract, including loss or perversion of appetite, constipation or diarrhœa, or a condition of alternating constipation with diarrhœa, and the so-called bilious attacks occurring at longer or shorter intervals. As objective symptoms in this group may be noted the gray, thinly-coated, shiny or slimy tongue, or, where gastric indigestion predominates, the so-called geographical or mapped tongue, attributed by Eustace Smith to gastric instability brought about by the fermentation products of cooked sugar in the food, together with foul breath, abdominal distention and flatulency.

Second.—Symptoms due to interference with digestion and assimilation of food, including poor physical development, muscular weaknesses, wasting and anæmia.

Third.—Symptoms referable to the toxemia; most of the functional nervous diseases of childhood falling into this group.

A study of between 50 and 60 cases upon which I have notes give the following toxemic symptoms:

Fever, usually not high except during the acute outbreaks.

Headaches.

Grinding of the teeth and picking at the nose, the symptoms upon which most lay diagnoses of worms are made.

Skin eruptions.

Nervous irritability.

Muscular inco-ordination and tendency to fall upon slight provocation.

Disturbed sleep, including sleep-talking and night terrors and a tendency to awake unrefreshed in the morning.

Mental dullness, and an inability to concentrate the attention.

Attacks of pallor, which may at times simulate petti-mal, and actual convulsions.

A typical case of gastro-intestinal indigestion presents the following picture: The child's complexion is sallow, with dark rings about the eyes, he looks, as the English express it, livery, the body is wasted and under-developed, the belly large, the extremities small, he is anæmic, the tongue is usually coated lightly and often slimy from a deposit of mucus over the surface, giving the appearance described as characteristic of mucus disease. The mental condition of the patient is dull or disinterested, or the general manner may give the impression of unhappiness or discontent. He is irritable, flies off into fits of temper or cries upon slight provocation, suffers from day and night terrors, and may be a sleep-walker or sleep-talker. Headaches are common, and various skin lesions appear from time to time, principally urticarias and eczemas. Jacobi says that in cases of erythema, which are universal or nearly so, the condition of the urine, containing products of intestinal fermentation, may be utilized in differentiating from scarlet fever, measles and rubella. Muscular inco-ordination, due in part to the general muscular weakness and in part, undoubtedly, to the inability on the part of the poisoned mind to concentrate itself upon muscular action, is a prominent symptom. These children stumble and fall without any apparent cause, speech defects are occasionally noted. The urine of these patients usually contains a marked excess of indican, although an absence of indican does not by any means preclude the possibility of the intestinal disorder. The amount present fluctuates with the toxemic symptoms. According to Holt the amount of indican present indicates very accurately the degree of intestinal putrefaction. Free indigo may be present. This I have seen in one patient (an adult); the urine was green in passing and indigo was easily brought out by shaking the specimen with chloroform. Sahli tells of a specimen of grass-green urine obtained from an apparently healthy boy, the color being demonstrated as due to a mixture of the blue of the indigo with the yellow of the urine. Indican is formed by the putrefaction of proteids and is influenced by slow peristalis Indican is probably always of bacterial origin, and may be produced when cavities contain fetid pus. The test of the urine is exceedingly simple and throws much light upon the condition.

In 36 of my cases, in which tests for indican

were made, 24 showed a marked excess and in all but one indican was present. Since writing, however, I have examined a few other cases showing symptoms which could apparently not be attributed to any other cause, in which indican was slight or absent, but inasmuch as indican simply signifies proteid decomposition we can hardly expect to find it in all digestive disturbances.

As to the differential diagnosis, probably tuberculosis is the most difficult condition to exclude, wasting is characteristic of both conditions, fever is common to both, a gastric catarrh may complicate tuberculosis, loss of muscular tissue in the latter disease makes a prominent abdomen which is so characteristic of intestinal catarrh. Many of these patients have tubercular family histories to prejudice us, and many are brought to us with diagnoses of tuberculosis already made by parents or former medical attendants. Dr. Eustace Smith gives the following points in the differential diagnosis between digestive disorders and tubercular disease: "In the digestive disorder the rise of temperature is always accompanied by signs of digestive upset, although these signs do not always make much impression upon the minds of the parents who say that the child is feverish and is wasting slowly, and it is only in answer to questions that one finds that he has no appetite, looks livery and shows unhealthy stools. The diagnosis depends upon the history of the case, its regular course with intervals of comparative health and the occurrence of sudden attacks of fever, accompanied by signs, trifling perhaps, but plain enough, of gastro-intestinal derangement." Eustace Smith says "that at all periods of childhood the rule holds good that so long as we can find a local disturbance which is sufficient of itself to explain all the symptoms of the case, we have no warrant for assuming the existence of an underlying element such as tuberculosis." A von Pirquet is of doubtful value inasmuch as a positive von Pirquet after the first few years of life apparently does not signify an active lesion.

Malaria is apt to confuse the diagnosis in malarial districts. Kerley says that nearly all the cases seen by him have been given at one time or other a course of quinine; this mistake is very commonly made on account of the atypical forms in which malaria manifests itself in childhood. An examination of the blood ought to eliminate this condition.

In practically all cases the symptoms have been attributed to intestinal worms. Various patent worm medicines have been given or systematic treatment has been instituted by a physician. A careful examination of the stools with inability to find the parasite or its eggs should settle the question. No physical examination of a wasting child, or of one suffering from a functional nervous condition, is complete without a microscopic and macroscopic examination of the stools, a procedure as simple as a urinary examination, and consuming no more time. In my experience intestinal worms in childhood are uncommon.

The treatment of these conditions depends entirely upon our ability to establish perfect control of the patient. Where this control cannot be established at home, the case must be put in the hospital or a trained nurse put in charge where practicable. It is exceedingly hard to teach parents the necessity for a careful diet and regular habits, and where the parents do appreciate this necessity, relatives and friends often interfere. Where control can be established, the result is almost sure to be good, without control, failure is certain. One of the greatest difficulties we have to contend with, especially among the poorer classes, as suggested above, is the high cost of living. More indigestible foods are, as a rule, cheaper. The cost of the better cuts of meat is prohibitive, poorer cuts are disguised by various indigestible methods of preparation. Beef juice is expensive, and as a rule starchy foods, costing less than the proteids, are used in excess. We cannot safely, in prescribing a diet, simply tell the parents what ought and ought not to be eaten, explicit written menus, giving the exact articles of food for each meal, the exact quantity of each article to be allowed, and the exact length of time that each article should be cooked, must be given to each patient. Many pediatricians instruct the mothers to bring to their offices each day a written record of the foods given the day before; this insures a careful living up to instructions. In cases where the home surroundings are fair, but the children especially refractory, a few days in the hospital will often suffice to establish the proper regime. At the end of this time the patient has usually accepted the situation as inevitable, the appetite is often improved, and he is willing to take what he can get when he can get it.

It is doubtful whether much can be done in the way of prophylaxis. A campaign in favor of proper feeding of children, conducted after the manner of the campaign against tuberculosis, could no doubt be easily managed and would bear results very little less valuable to the community. Some of the time devoted to the campaign against the liquor traffic might well be devoted to a campaign against the soda-fountain. Proper cooking could at least be taught to the upper classes in the public schools, and lessons in simple, practical dietetics would undoubtedly do much good.

There is some doubt, I think, as to the advisability of feeding children while at school. Comparatively few of the wasting diseases of children are due to under-feeding, by far the greater proportion of them depend upon overfeeding, and irregular feeding. The giving of such meals during the school day would, I think, tend to encourage irregular meals, and if the quotation in one of our recent newspapers of

the composition of a London school meal is accurate, I must agree with Leonard Guthrie in seconding the advice of Cardin, who said some three hundred years ago, "Trust a schoolmaster to teach, but not to feed your children."

The essentials of treatment are the following: a definite number of meals daily, given with absolute regularity as to time, to establish a regular digestive habit and separated by an interval long enough to insure complete digestion and the establishment of an appetite.

Absolute abstinence from food between meals, nothing but water being allowed.

A mixed diet containing vegetables enough to stimulate peristalsis, thereby insuring regularity of the bowels and the avoidance of stagnation, the factor in the production of fermentation products.

This diet should, as suggested by Morse and Talbot, be based upon a knowledge of the caloric values of the food-stuffs, and the composition of the bowel movements.

Proper and thorough mastication.

The establishment of good hygiene and congenial surroundings.

Children whose past history as regards feeding have been especially bad probably need only to be put upon a simple, digestible diet, together with the establishment of the above regime. Cases in which one particular class of food-stuffs has been used to excess should be limited in this particular. Those which give a history of overconsumption of milk, or in which milk has disagreed in early life, will probably do well on the milk free diet employed by Kerley. In these cases malted milk may be substituted for plain milk. Meats, where used in excess, should be limited. Most of the cases give histories of excessive sugar-eating, therefore sugar must be restricted, or absolutely eliminated from the diet. In order to make life bearable, it is probably advisable and safe to give, in the milder cases, some form of sweets in small quantity immediately after meals. If we accept the theory of Dr. Smith as to the unfavorable influence of cooked sugar upon the digestive apparatus, those foods requiring sweetening may be treated with raw sugar after cooking. It is well to remember, as suggested by Guthrie, that foods to be digested must not nauseate; fats, unless relished, do not fatten. Dr. Guthrie believes that whims should not be too freely indulged, but that a child should not be forced to consume something, much disliked, in large quantities, by the doctor's orders. He also advises strongly against the giving of medicines in food on account of the danger of rendering these foods repugnant, and warns against the effect on the appetite of nauseous medicines given before meals.

The importance of proper hygiene cannot be over-estimated, out-door life, exercise, proper clothing, are all of the utmost importance. Eustace Smith attributes most of the cases of gastro-intestinal disorders in children to the extraordinary susceptibility of mucous membrane at this time of life to alterations of temperature, and believes that the most trifling chill may be sufficient to produce a return of the old complaint. He believes that insufficient clothing is sometimes the whole cause of the trouble, and blames parents who have a foolish dislike for flannel.

Medicinal treatment is practically limited to the use of mild laxatives and intestinal antiseptics, and later some easily assimilable preparation of iron to combat the anæmia. It must be remembered that laxatives are sometimes necessary, even though the bowels evacuate themselves daily. Intestinal antiseptics, if they do good at all, must be given in small doses over a long period of time. Iron should never be given until the stomach is able to assimilate it, and then probably best in combination with an alkali and a bitter tonic.

SOME NEGLECTED POINTS IN OFFICE PRACTICE.*

By GEORGE E. P. STEVENSON, M.D.,
PENN YAN, N. Y.

IN presenting this paper on "Some Neglected Points in Office Practice," the writer confesses to a feeling of diffidence, because nothing new or of an original nature will be introduced. My excuse, however, for reading a paper devoid of originality or of novelty, is that the average office examination is frequently conducted in a superficial manner, and a short time spent in alluding to the careless methods which obtain, in the ordinary routine of office work, will not be misspent. Most men when called to a case, are apt to make a fairly thorough examination, but whether through laziness, carelessness, or lack of time due to excess of work, many of us do not do the painstaking, consistent work we are capable of, in the chronic diseases we meet daily in the office. It would be manifestly impossible in a paper of this scope to even allude to very many of the errors of omission or of commission incidental to office work, so I will merely touch upon a few salient points. It is assumed that every progressive practitioner keeps some kind of a history of his cases, as unless one has a phenomenal memory, it is impossible to do satisfactory work unless one does, and yet many busy practitioners absolutely neglect this important feature so essential to success. Another very useful habit to acquire is the blue pencil habit, as he who daily practices mapping out the normal organs and, of course, the aberrations from the normal as he encounters them, will, if persistently followed out, enable him to become a more accurate diagnostician

* Read at the annual meeting of the Seventh District Branch, of the Medical Society of the State of New York, at Geneva, N. Y., September 15, 1910.

and incidentally a better therapeutist. It is probable that the best work in physical diagnosis is done in diseases of the chest, but if the great white plague is to be eliminated from this country, we general practitioners must be constantly on the alert for such signs and symptoms as slight rise of temperature, some loss of weight and strength, increased frequency of pulse, especially under excitement, and hypotension of pulse, anorexia, slight cough caused by deep breathing, limitation of movement and prolonged expiration slightly raised in pitch. These symptoms complex are strongly suggestive of incipient pulmonary tuberculosis and if recognized earlier and oftener, in our office examinations, our percentage of cures would become much greater. If the chest is subjected to fairly thorough examinations as a rule, one cannot say the same of some of the organs below the diaphragm, especially the stomach. Percussion and auscultatory percussion of the stomach are not much more difficult than in our heart and lung cases and but relatively few men habitually employ them. In this connection, it is apropos to remark upon the importance of analysis of the stomach contents in some cases. Three objections are usually brought to bear against this procedure: First, because it is difficult; second, because it is not easy to induce the patient to consent to the passage of the tube, and third, because it takes too much time. These objections are not tenable because the passage of the tube is at least as easy as giving a high enema and much easier than passing the catheter in some cases, and once the contents have been obtained, it is but rarely necessary to make more than three or four simple chemical tests. Neither will the patient with long-standing stomach trouble, who has been the rounds, so to speak, and who has been dosed *ad libitum ad nauseam* with so many ready-to-dispense therapeutical absurdities, fail to co-operate with the man who exhausts every available means at his command to ascertain the nature of the trouble. The third objection also will not hold, because with a little practice the entire procedure takes but little time. Of course, this analysis is not always necessary and sometimes unadvisable, but if we were to resort to it oftener we would make fewer diagnoses of dyspepsia or gastritis and prescribe less frequently that much-abused combination of pepsin and pancreatin and perhaps a mineral acid, when we might require to give atropine to check secretion or the bitters to excite it, or perhaps the appropriate remedies for a hyperchlorydria, or for many another pathological condition. Through a determination of the presence and percentage of hydrochloric acid and of lactic acid, the presence of the latter and absence of the former would at least put us upon our guard as to the probability of carcinoma, the treatment of which is so unsatisfactory unless recognized early, and help our surgical friends to lessen the mortality, which competent authorities declare is on the increase.

In cancer of the uterus, also, an early diagnosis is of paramount importance and that should be made before the appearance of the cardinal symptoms, such as cachexia, pain, hemorrhage and discharge, and of course before infiltration into the surrounding tissues occurs. That feeling of induration to the examining finger, especially if the latter causes a slight hemorrhage, should necessitate the excision of a small piece of tissue and a microscopical examination. General practitioners should not be subjected to too much censure for failure to diagnosticate early in this disease, because women will not generally consult us in an early stage. Reflex coughs are often unrecognized, when possibly an application of a little silver nitrate to an ulcer in the ear, or the removal of cerumen, or the application of a blister over a sensitive nerve ending in the chest, or the removal of a nasal spur would bring quicker and more permanent relief to this class of cases than the proprietary cough syrups so universally dispensed.

In speaking of coughs, the failure to remove all clothing from the part under examination has been the cause of many a faulty diagnosis. Not long ago a lady brought her son into my office, stating that he had a cold, and after a rather superficial examination through the clothing I was about to prescribe for him when on noticing that the respirations were above normal I did what I should have done in the first place, that is, stripped the patient and discovered a well-marked area of pneumonic congestion. On taking the temperature I found it to be 103. It is unnecessary to state that the incident was a good object lesson to me. The hemoglobin scale is an invaluable aid in keeping track of our anemia cases, and the estimation of the blood pressure, now coming into fairly general use, is of great value also.

Both of these procedures consume very little time. While on the subject of anemia, how many look for aortic stenosis as a cause of it? A good microscope is a very necessary adjunct to one's office equipment and of much greater importance than some of the ornate and impressive apparatus the therapeutic effects of which are frequently due to suggestion. In Ontario County, in two respects at least the most progressive county in the state, where there is a competent county bacteriologist in charge of a well-equipped laboratory to which we men of Yates have access, the possession of a microscope is not so essential as in counties less favored. We should not forget the rôle of chronic appendicitis as a causative factor in some stomach affections. Personally I have probably made more diagnostic errors in appendicitis cases than in any others, and the surgeons say that many

of us are remiss in the early diagnosis of this prevalent affection. Since availing myself of our worthy president's sign, viz., prominence of the veins on the affected side, I have found it a very valuable aid in the early diagnosis of appendicitis. The cystoscope, and especially the urethroscope, are not used with the frequency that they ought to be. Those chronic urethral discharges would cease to be the *bête noir* to the general practitioner that they are if the little area of congestion producing them were recognized through the urethroscope and treated with a few applications of copper sulphate or some other efficient astringent. If rectal examinations were made with the frequency of vaginal examinations we would be less inclined to take our patient's diagnosis of hemorrhoids when there might be a fissure, or an ulcer, or a polypus, or a proctitis or perhaps a cancer to deal with.

The office treatment of rectal diseases is no more repulsive than our gynecological or venereal cases, and many of the pathological conditions existing in the rectum can be treated in the office with satisfaction to our patients and credit to ourselves.

How about those backache cases which persistently refuse to respond to our liniments and salicylates and iodides? An examination of the feet and a pair of arch supporters would clear up some of these cases wonderfully. Myalgia is an unfortunate disease which seldom gets its deserts, being generally called rheumatism, a term which, like dyspepsia, covers a multitude of diagnostic sins.

While circumcision is often performed, if removal of adhesions about the clitoris were done oftener we would get better results in those reflex disturbances in young girls when due to this cause.

I have reserved for the last that portion of the human anatomy most frequently neglected in office examinations, and that is the spine, as unless there is a pronounced curvature, or localized pain over one or more of the vertebræ, or some symptom directly referable to the spine, it is not, as a rule, given the attention it deserves.

Passing aside the absurd contention of the osteopathic fraternity that most of the ills that flesh is heir to are caused by disorders of circulation due to displaced vertebræ, the fact remains that a careful examination of the spine will often elicit a wealth of diagnostic information. I will only touch briefly on the intensely interesting subject of the spinal reflexes. In my remarks on reflex coughs I should have alluded to those due to vertebral tenderness from the sixth to the ninth dorsal vertebræ. It is sometimes possible to elicit coughs by deep pressure over these sensitive areas and again we have to resort to the application of the sinusoidal current to produce them. Thorough freezing of these sensitive areas with ethyl chloride will, as a rule, promptly alleviate coughs of this nature. In those thoracic or abdominal pains not apparently due to any lesion of the organ or part underlying the pain, the too frequent tendency is to place the counter-irritant over the painful area with but temporary relief when it ought to be applied to the affected spinal nerve at its exit from the vertebral column. Lumbo-abdominal neuralgia is often mistaken for appendicitis, and the lumbar vertebræ ought to be carefully examined in every suspected case of the latter disease. Abrams, of San Francisco, in a recent work states that concussion of the first three lumbar vertebræ will not only elicit the splenic reflex of contraction but will prove a very successful adjuvant to the use of quinine in the treatment of malaria.

When nausea is due to irritation of the first two dorsal nerves, it is possible to evoke it by pressure at the point of exit of these nerves and to as promptly alleviate it by appropriate local spinal treatment. Further instances of the correlation between the spinal nerves and sympathetic system could be cited at length. Of course, I realize that very busy practitioners, especially in the country, frequently have not the time to do the painstaking office work that they are capable of, but whenever possible the first examination at least of every patient whose case presents any difficulties should be very thorough, and, as before mentioned, many of the diagnostic and therapeutic methods referred to take very little time.

In closing, I would state that this paper has been written in no spirit of egotism or of captious criticism, becauses many of the errors alluded to have been from my own personal experience.

SURGERY OF NEURASTHENICS.*

By WILLIS E. FORD, M.D.,
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NEURASTHENIA is not a well-defined term. Perhaps one of the main reasons that the disorder by this name has failed in successful management is the absence of any clear understanding as to its pathology and causation. This is indicated in a way by the fact that various names have been applied to the nervous disorder which has symptoms common in all cases, but many symptoms which might be due to various other well-known disorders.

When Dr. George M. Beard first wrote on this subject he described the symptoms probably as well as any writer has done since that time; but an attempt to classify these symptoms into a disorder that would indicate any single morbid

*Read before Fifth District Branch of the Medical Society of the State of New York at Syracuse, October 19, 1910.

change, was a very difficult task. Of course, patients did not die of this disorder, and hence, there was no pathology, and so the spinal cord was accused, and various other organs of the body—especially the blood-making organs in turn, according to the point of view of the various observers. It has been an open field for the internist, the neurologist, the gynecologist, the oculist and lastly for the surgeon.

Twenty years ago "reflex nervous disturbance" was the phrase commonly heard, but it was long established that a nerve center at a distance from a diseased ovary, for instance, or a displaced uterus, could not disturb all the functions of the body in the way in which neurasthenics complained, though for a long time minor surgical operations were tried in vain with the hope of relieving these sufferers. In turn the spinal anæmia theory, the theory of eye-strain, uricacidemia and auto-infection from the bowels have failed to reach the cause of the disorder, or to cure the patient.

The trouble is that neurasthenics have so many symptoms that may be explained by totally different bodily conditions, that no theory has yet been acceptable to the profession generally. There are two factors, however, that persist in every case of neurasthenia, namely, want of courage, and morbid apprehension. These two factors, common to all cases of neurasthenia, must be attributed to some peculiarity of the mental endowment of the individual, or to some morbid condition of the brain itself.

Many if not most of these patients live comfortable lives if they are in subordinate positions where they do not have to take much responsibility. When some unusual stress of body or mind comes and remains so long as to cause a nervous break-down, they do not get well. A cure is chiefly an abatement of symptoms. A restoration of the general health is the physical process, and prolonged mental rest the necessary adjunct.

The difference between neurasthenics and normal people is that the latter may be very sick or worn and worried, until their nerves are beaten to a frazzle, and yet they keep their courage, and have abundant hope, and they get well with very little help from the doctor. The latter may be operated upon with reasonable assurance that the result will be beneficial; while the former may not be benefited, so far as they know or their friends can observe; and in every such case the patients have some bitter reflections to add to their despair, and a strong opinion that surgery is not to be commended. Their friends largely share this opinion also.

An effort to distinguish neurasthenia as a fatigue neurosis without mental change, seems to me to have been a failure. Normal men endure sickness and hardships of all sorts, both mental and physical, without becoming neurasthenics. They may at times be nervous or hysterical, but never without courage, and rarely are morbidly apprehensive. Witness the record of soldiers in long campaigns, or consumptives, or cancer cases.

Psychasthenia is a state of disturbed emotion also, but with intellectual perversion, which seems to me to put it among the insanities. We can distinguish between fatigue and that want of courage that prevents effort. If neurasthenia was simply a fatigue neurosis, it seems to me that with prolonged rest some patients would get well permanently.

Now that surgery has taken the field and accomplished so much in other directions, and has secured the confidence of the community to an extraordinary degree, the temptation is to operate these unfortunates, with the hope, that everything else having failed, surgery may succeed. In all cases where we are certain of a correct diagnosis, and where the general health of the patient is being interfered with by surgical disorders, no one would object to surgical aid being offered. The only protest I would make is against promising permanent relief to neurasthenic patients, that might with perfect safety be promised to other people.

As long ago as 1895* I gave the results of my own experience in seventy-five cases of trachelorrhaphy, done chiefly for the relief of nervous symptoms, the cases having been followed for a space of from two to five years afterwards, with the conclusion that surgery did not materially change the course of neurasthenia. Since then I have refused to operate for the relief of neurasthenics, many cases of enteroptosis in the pelvic organs, or in the abdominal organs, or for movable kidney, because of my previous experience with neurasthenia as an entity, and because I was convinced that it was a mental disorder, the course of which would not be materially changed by surgical procedure, any more than the condition of melancholia and mania would be changed by opperations that were not immediately demanded to save life, or for conditions that did not give any very great disturbance to the general health.

While, therefore, it is not right to deny to a neurasthenic an operation, it ought always to be pointed out that the course of the neurasthenia would not be especially modified, excepting as the general health was restored by surgical procedure; and that neurasthenia stands toward the surgeon in the same relation as does an original mental defect like paranoia, actual insanity like melancholia or mania, and chronic neuroses like chorea or epilepsy.

In my own experience one surgical procedure commends itself to me in neurasthenia, and that is upon the pelvic floor for lacerations that produce enteroptosis of the pelvic organs. I think the reason why this has been of more benefit to

* See "Ultimate Results of Trachelorrhaphy," American Gynecological Society, Philadelphia, Pa., June, 1895.

neurasthenics than other operations, is the fact that it relieves them from a greater number of small annoyances that tend to keep the mind upon that particular part of the body, allowing morbid fear to center upon some incurable disease of the genito-urinary organs.

One is impressed with the fact that the morbid apprehension of so many neurasthenics relates to the sexual organs. Of course, men are much worse in this respect than women for there is so frequently loss of function. Some exhausting diseases notably tuberculosis, are accompanied by sexual excitement. While a rectocele, or a cystocele, or urethral caruncle, or a simple retrodisplacement may not cause the same kind of apprehension that an irritable prostate, for instance, does in man, the general effect on the mind may be serious to neurasthenics.

I do not believe in the theory that the mental suggestion of an operation *per se* justifies surgery. It is perfectly true that dominant mental suggestions have a most potent influence that makes for the betterment of the patient through his own efforts; and until that state is reached where the patient co-operates with his physician in trying to help himself, medicines that are given will be of very little avail.

A notable discussion of this subject occurred in Washington last May at the Congress of American Physicians and Surgeons, chiefly interesting from the surgical standpoint. Dr. William J. Mayo* seemed to me in the discussion to have expressed the case clearly.

"Dr. William J. Mayo agreed with Dr. Clark that the patients they had under discussion were wrong from the beginning, and his own feeling was that but a small number of them should be treated surgically. For some years they had made a careful examination of all patients who presented themselves, no matter whether they had cancer of the breast or gallstones or what not, and to their surprise they found that about 25 per cent. of the women had retroposition of the uterus. They did not find that retroposition of the uterus was more frequent in the latter decades of life. Even young girls who came to them, in whom pelvic examinations were made through the rectum, had retroversion of the uterus in about the same proportion of cases as those women who had reached the menopause. Again, they found 20 per cent. of the patients who came to them had movable kidney, and a very large majority of them did not have any symptoms whatever. He thought the neurasthenics, from a surgical standpoint, should be treated like the insane, in that they should take no cognizance whatever of their general complaints, but if they had sufficient local pathology to warrant operation they should operate on them, as they had no right to deny the relief that came from surgery. Doubtless many of these patients would be benefited by the Emmanuel movement or by Christian Science, and many of them would gladly turn them over to a Christian Scientist if they were convinced that the Christian Scientists were really Christians, because it really took a Christian to handle them."

This very important symposium dealt largely with visceral ptoses, and the general conclusion by the distinguished operators that spoke, seemed to be that much surgery had been done in this line that had not been satisfactory. The point I want to make is that there is a possibility of making a diagnosis between nervous invalids that can be operated with reasonable expectation of success in the ultimate result, and a true neurasthenia that ought to be approached by the surgeon in a very guarded way. Psychasthenia, that borderland of insanity is a dangerous ground for the surgeon, because insanity of a pronounced type may develop after operation, while neurasthenics usually do not become insane but remain uncured examples of multiple surgery in many instances.

The second point, which is really the important thing in this discussion, it seems to me, is that where surgery is necessary in a person with true neurasthenia, we ought to remember that this disorder is a chronic one from the first time it was discovered by the physician, and that in arranging for surgery a greater length of time ought to be taken for preparation; and that the patient should be told that the improvement in the nervous symptoms depend fully as much upon the after treatment of the patient as upon the surgery itself. This would mean that the patient would stay much longer in the hospital than heretofore was thought necessary after similar operations.

Visceral ptoses and the pelvic disorders that are made better by surgery ought to have a prolonged period of rest, with massage, stimulating baths and electricity, and above all the constant encouragement on the part of nurses and physicians.

This will be efficient in lessening the nervous symptoms, so that these unfortunate suffierers may not be obliged to go out into the world seeking multiple operations, fake cures, occultism in any form, losing their faith in the regular profession.

This means an entire change in our theory of hospital management. In the first place a small hospital that has a limited number of beds would find itself over-crowded if the patients remained for a long time. On the other hand, a hospital that really sets out to cure ought to furnish such appliances that the after treatment of these neurasthenics could be carried on under the advice of well-trained regular physicians. It would mean much more work in general medicine in a small hospital than is being done to-day. I make the plea in this short paper in order that men who are interested in hospital manage-

* See *American Journal of Obstetrics*, August, 1910, page 295.

ment, and surgeons who are operating in hospitals, may try to bring about the understanding regarding neurasthenic patients, that should save this unnecessary surgery, and should give some reasonable hope to those who are obliged to have surgical procedures, that their general health shall be improved by their stay in the hospital, and that they shall be able to recognize the fact that in order to give the surgeon a fair chance, a longer stay in the hospital and a more systematic treatment is necessary than we have hitherto thought necessary.

THOUGHTS ON DIAGNOSIS.*

By EDWARD MUNSON, M.D.,

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If there be one thing more than another for which the modern student of medicine owes thanks, it is that he can write it down a science. Time was when the word "art" defined it much more nearly, and that not many centuries ago. In those days astrologers consulted the stars and cast their horoscopes with a glance as wise and important as any modern pathologist sends down his microscope; "eye of newt and toe of frog" formed a not unimportant part of materia medica: in preventive medicine nothing could excel the protective power of a caul; and, in short, superstitions on the part of the laity, and mysteries on the part of the profession made up between them the art of medicine. Ignorance has ever sought to mask itself in show, and "the meretricious adornment of verbiage" still serves its purpose. But we have passed out from under the clouds of superstition; the proverbial gold-headed cane is ashes, save its head, and each disciple of that art, which Sir Thomas Browne strove so ardently to dignify, can now point in triumph to the corner stone of scientific truth, upon which alone medicine rests the future of its dignity. Yet, while rejoicing in the truth of this, it should not be forgotten that this vast advance has been due quite as much to the genius of the age as to the efforts of medical men, nor should we be over ready to asperse the acumen of our forefathers in the profession. "There were giants in those days," and if they failed to make a science of medicine, as fail they did, it was from lack of means, and not of intellect. We cannot choose but admire the keenness of observation, and the patience of detail which these historic fathers showed, and there is even in the works of Hippocrates, faulty as they must of necessity be, much to challenge admiration. Down the long ladder of time which stretches from Hippocrates to the present century, we see, here and there, foot prints of great men and records of their labors after truth. Rome produced her Galen, Arabia her Avicenna, Italy her Vesalius, France her Paré, and England her John Hunter. These men were great; they were preeminent, and we can but marvel at the results which they have given us. Science was scarcely a name, and yet without her aid, they arrived at truths which she, coming later, has been unable to gainsay. But it is more especially in the last one hundred years that our profession has been taking those strides toward truth, which have won for her the distinguishing name which belongs to each hand-maid of truth. Allying herself with the new-born departments of chemistry and physics, she has advanced on equal step with these two sisters, drawing sustenance and support from each. Upon chemistry and physics, with the fellow science of microscopy, has been reared the vast and intricate superstructure of the medical science of to-day. The end is not yet. Indeed, the beginning only has been made. Yet in view of the marvelous results which have already been achieved, who can doubt that "thro the ages one increasing purpose runs, and the thoughts of men are widened with the process of the suns."

Turn we now to a single phase of this subject: The diagnosis of disease. We still make use of the same word which Galen employed, and we mean by it much the same thing. Diagnosis, in its more limited sense, signifies the discriminating knowledge of disease; the knowledge of the phenomena by virtue of which each disease occupies its individual place in the morbid catalogue. Now this definition implies a classification of diseases as a fundamental element in diagnosis; for, if we are to distinguish morbid processes from one another, we must know where each one belongs. And this brings us at once upon one source of fallacy in diagnosis. For a classification, to be perfect, must be not only scientific, but it must also be complete. We have no such at present. And so we arrive at the inevitable conclusion that the science of diagnosis is as yet imperfect. Nay, more, we are convinced that it must ever remain so. None but the most credulous enthusiast can flatter himself that we shall ever gain a perfect understanding of "that most remarkable portion of matter, which is destined to be for a season the tabernacle of the human spirit, and which excites increasing wonder and admiration, the more closely we investigate its marvelous construction."

In its widest meaning then, diagnosis implies a knowledge of the cause, the morbid anatomy, and the effects, both immediate and remote, of disease. But practically, in the present condition of our science, it may be defined as the best conclusion which can be legitimately deduced from given premises concerning the nature of disease. These premises are the phenomena, both subjective and objective, which disease in the human body presents. These phenomena are technically known as symptoms, and it is in the careful and scientific interpretation of symptoms that true

* Read before the Eighth District Branch of the Medical Society of the State of New York, at Buffalo, September, 1910.

diagnostic skill consists. Both of these sets of symptoms are valuable. Careful consideration of each is requisite to accurate diagnosis. Yet they may vary as to their relative value, or each may exist independent of the other. A single illustration will serve to make this clear. A patient suffers from facial neuralgia. He has a single symptom—pain. This is subjective, and if he did not inform us of this fact, he might go on suffering until the end of the chapter, and his physician be no whit the wiser. Or, again, a patient comes into our presence nude. By a single glance we discover an objective sign by which we know, absolutely and with certainty, that the person is afflicted with syphilis, and no denials on his part have a feather's weight to change our conclusion. Now, objective signs are always more valuable than the subjective. There are certain elements entering into the nature of the latter which tend to vitiate them. The wish to deceive, false appreciation and errors of judgment, the utter ignorance of the nature and value of scientific accuracy, individual idiosyncracies; all these and much more tend to make subjective signs more or less fallacious. Yet, as that classical writer, Sir Thomas Watson, so aptly remarks, their value is made apparent by the difficulty we are apt to experience in investigating the diseases of children, of those who are dumb or who speak no language which we can understand.

If, now, we regard the direction in which modern diagnosis has advanced, we shall see that it has been in the improved means for recognizing and readier skill in interpreting the objective or physical signs of disease.

Physical science has come with a generous hand and gifted medicine with such instruments of precision as have made the darkness of our forefathers visible. Laennec and Avenbrugger, when they gave to their profession auscultation and percussion, struck the prelude to a chord with which many a lesser note has since chimed in. Time will not allow us to discuss *seriatim* all the modern aids to diagnosis, yet we must touch lightly upon a few of them, as we pass. Helmholtz devised the ophthalmoscope, and straight the empiric act of ophthalmology became a science. In like manner the laryngoscope threw back the rays of its peculiar image and laryngology took its rank as a recognized branch of our science. Sim's speculum put to the blush the older diagnosticians of the diseases peculiar to women. The sphygmograph has written the indelible trace of the pulse. The endoscope has illumined the hitherto concealed cavities of the body. The electric wire has become the terror of malingerers. The Rœntgen ray has enabled man to view his own skeleton, himself being yet in the flesh. The microscope—ah, here we pause, for even a bare summary of what this instrument has accomplished for medicine would be in these pages impracticable. It has made the achievements of the unaided eye a record of past glories. It has revolutionized the whole frame work of medicine. In short, it was the herald of the dawn of the new science. It has demolished old theories, and erected new ones, proving, meanwhile, that theories subserve a very useful purpose, so long as we are not blindly wedded to them; so long as we are content to hold them stepping stones to higher things.

Innumerous and invaluable as are the means of diagnosis of which the modern physician may avail himself, there is still lacking much for succeeding generations to supply, and the achievements of the past may well stand as the earnest of the future.

"Art is long and life is fleeting." It was ever held a sweet and fitting thing to die for one's country, but surely it is just as noble to have lived well for one's profession, when it is the dignified and humane one of medicine, and it is the duty of each member, so far as in him lies, to add his mite in swelling the pile of useful and accurate knowledge. By the combined self-sacrificing efforts of individuals our science has attained its present plane, and by just such means must it advance. There is no middle ground possible. Science cannot stand still. It must advance, or it will retrograde. A grave responsibility is this, which is thus entailed upon each generation of medical men. Yet hitherto they have met it bravely and soberly, and with an abiding sense of its gravity have they evolved their fruits. They have counted it a small thing to endure privations and neglect pleasurable comforts, if thereby they might be able to render back a little to that art which had given them so much.

For medicine has its list of heroes—yea, of martyrs. What shall we say of him who slept with a cholera corpse, of those who dared the deadly miasma of the Pontine marshes; of him who risked the fatal bite of the stegomia? Quixotic—were they? Well, perhaps, but even so, it was, to use De Morgan's phrase, "the quixotism of the angels."

There is a single danger to which we must in conclusion advert—the danger of neglect. "Knowledge comes, but wisdom lingers." The means of improved diagnosis are placed at the disposal of the profession, but the wisdom which should prompt to their complete and skillful adaptation is in some quarters sadly lacking. Now, this is a grave error, a very culpable sin of omission. Students and practitioners should alike familiarize themselves with all the important aids of their progressive science. Humanity with one voice demands as much, and science echoes that demand. In the terse, strong words of Dr. Johnson, "If no advantage be taken of the labors of past ages, the world must remain always in the infancy of knowledge." They symbolize the giant upon whose shoulders we pygmies are standing. Our eyes sweep a

wider horizon than theirs, but only by their aid. What folly is it, then, to lose through neglect a tithe even of this vantage ground which the centuries have given us.

So then, as we glance broadly in review over the field of diagnosis, we discern a toilsome past, a rich present and a promising future. Grateful for that past, rejoicing in that present, we look forward confidently to the fulfillment of the promise of that future. And so, one by one, as generation succeeds generation, will be forged the links which in God's own good time shall complete the chain of an ideal art, a perfect science.

SUPERVISION OF THE VENEREALLY DISEASED.*

By G. V. R. MERRILL, M.D.,

ELMIRA, N. Y.

THERE are three diseases classed as venereal: Gonorrhœa, syphilis and chancroid. While the latter numbers its thousands, aye, hundreds of thousands, is frequently the cause of much distress and occasionally becomes of serious import, its further consideration at this time is unnecessary.

As bearing upon the question of supervision or control, we must take into consideration both the gravity and extent of the diseases over which we seek control. An examination of the current literature at my command revealed the following as direct results or complications of, and due to gonorrhœa; viz., abortion; abscesses, general, rectal, and tubo-ovarian; inflammations of joints, muscles, bronchi, conjunctiva, endocardium, peritoneum, rectum, bladder, Fallopian tubes, and veins, and septicemia or general systemic infection; 45 cases.

From hereditary syphilis there resulted: infection of the brain and spinal cord; eyes, ears, nose and throat; heart, intestines, liver and stomach, nervous system as shown in general paralysis, pseudo-paralysis, or tabes, osseous system, skin and finger nails, spleen, thymus and thyroid glands; 38 cases.

From acquired syphilis: arteries, large and small; bones, including skull, face and spine; brain, some in fourth ventricle causing polyuria, spinal cord, tissues of eye and eyelids, Fallopian tubes, heart, joints, kidneys, larynx, liver, lungs, mammary gland in man, muscles, nose and mouth, nervous system as shown in epilepsy, dementia, general paralysis, hemiplegia, insanity, locomotor ataxia, and paraplegia, nutrition in infantile non-development, parotid gland, pathetic and peripheral nerves, pharynx, reinfection, skin by gumma, ulcers, or pigmentation, spleen, toes and tonsils; 158 cases. Total, 241.

These were all detailed cases in which there was no question of the correctness of the diagnosis. Every organ and tissue of the body were involved. Does this simple sketch convey any idea as to the seriousness of these diseases? In the whole list of ailments is there another one that can give such a picture of evil effects and destruction?

As others see it:

Dr. Charles A. L. Reed,[1] of Cincinnati, says: "The power of the gonococcus to overcome the natural barriers of invasion makes it the most destructive of all the individual infections of the female genitalia." Concurred in by Dr. Wertheim[2] and others.

The late Dr. F. C. Valentine[3] testifies that: "A woman infected with gonorrhœa is in danger of her life," and Dr. Joseph T. Johnson[4] further says: "The evidence is indisputable and overwhelming that many women lose their lives annually from the pelvic inflammations caused by this disease and its complications, and thousands probably lose their health or power of conception from the same cause."

As to sterility:

Dr. Victor C. Pedersen[5] affirms that: "Gonorrhœa is the most fruitful single cause of sterility in both men and women." Kehrer[6]: "One-third of sterile marriages the fault of man by reason of gonorrhœa." J. T. Johnson[7]: 28 per cent. to 70 per cent. Robinson[8]: 60 per cent. G. G. Ward, Jr.[9]: 70 per cent. W. E. Fritch[10]: 90 per cent.

Vulvo-vaginitis in children:

Dr. Andrew F. Currier,[11] of New York, remarks: "The after-life consequences of vulvo-vaginitis in children include many cases of undeveloped uteri with resulting dysmenorrhœa, sterility, mental unrest and unhappiness."

Dr. J. Riddle Goffe[12] reports: "Of 394 cases of vulvo-vaginitis in children, by different observers, 237 were of gonorrhœal origin." Dr. R. Skutch,[13] in 1890, at Posen, reported a most extensive epidemic of gonorrhœal vulvo-vaginitis. "236 school girls from 6 to 14 years of age were infected within 14 days. All of these contracted the disease in one bath-house."

Acute purulent and fatal peritonitis is also not infrequently a complication of vulvo-vaginitis.

Blindness:

Statistics[14] show that gonorrhœa is responsible for from 25 to 30 per cent. of all the blindness in the world to-day, and that about 75 per cent. of all female ailments are due to innocently contracted venereal disease. According to estimate there are in the United States, upwards of 50,000 blind, of which number nearly 7,000 have been blind from infancy by reason of gonorrhœal ophthalmia. In New York State the corresponding numbers are 5,000 and 6,000.

Prof. Lucien Howe,[15] of Buffalo, submits: "An estimate published in 1898 showed that *at that time* the minimum cost to the State of New York was something over $58,000 each year be-

* Read before the Elmira Academy of Medicine, November 2, 1910.

cause of persons made blind by ophthalmia neonatorum."

About 3 per cent. of all cases of gonorrhœa in the male have arthritis, and from 3 to 20 per cent. are followed by epididymitis. Dr. Byron Robinson,[16] of Chicago, finds that many rectal strictures (especially in women) are due to gonorrhœa. Dr. James N. Vander Veer[17]: At least 75 per cent. of enlarged prostates. Dr. A. H. Burr[18]: Not a few cases of puerperal sepsis, and Dr. Holt[19] reports 26 cases of gonorrhœal arthritis (in children), 14 of them being fatal.

Concerning its extent:

Dr. Maus,[20] of Detroit, writes: "This malady is universal, and the most prevalent affliction of mankind, excepting, perhaps, the Great White Plaugue, and is met with in all walks of life." Keller[21] does not even admit that as an exception. Dr. A. L. Wolbarst[22] has seen 22 cases of gonorrhœa in boys under twelve years of age. In 617 women examined by Schwartz,[23] the gonococcus was found in 67, or 12.4 per cent. Of 65 married women, all belonging to the thoroughly reputable class, Dr. Van Shaick,[24] of New York, found 17, or 25 per cent. with gonorrhœa. In 108 pregnant women, Oppenheimer[23] discovered that 30—27.7 per cent. had gonorrhœa. Many hold that 20 per cent. of all married women suffer from the effects of gonorrhœa. Wolbarst[25] says: "Conservative gynecologists tell us that from 65 to 85 per cent. of all the surgical operations performed on the pelvic organs of women are the result of gonorrhœal infection." Sänger[23] maintains that gonorrhœa affects 12 per cent. of all female patients. Byron Robinson,[26] of Chicago, that it affects 75 per cent. of young men reared in large cities; Ricord,[27] of Paris, and Noegerrath, of New York, eight-tenths of adult males; commenting on which, F. C. Valentine[28] says: "Noegerrath's assumption has been more than borne out by recent science."

Prof. Brooks H. Wells[29] asks: "For how many childless homes is this evil responsible, for how many lives made sunless by the cloud of chronic invalidism, for how many marriages made failures by marital incompetence? For as much as, or more than, from all other causes of pelvic ills combined."

With this mass of evidence and expert opinion before them, is there any question as to the stand physicians should take? The fact is that gonorrhœa, without exception, save possibly measles when extensively epidemic, is the most frequent and widely diffused disease known to man. If we attempt to measure its evil effects, no measure we can conceive of is sufficient. Should we endeavor to estimate the economic loss imposed by it the amounts would be appalling; should we aim to picture the pain, shame, misery and distress it has brought upon our people, the result would be one of deepest, unillumined gloom.

In regard to syphilis, it is well known that it is a systemic disease which may affect any part of the body; that after its first manifestations, apparently it may lie dormant in the system for many years, fifteen, twenty, or even longer, and then be awakened to new and pernicious activity; that it is transmissible, either killing the fetus in utero, or inflicting a post-natal impression that can never completely be effaced. It is responsible in great measure, if not entirely, for tabes, general paralysis, and a host of obscure, atypical disorders.

In connection with gonorrhœa it is more prevalent than all other communicable diseases united; it is the greatest contributor to race suicide; the economic loss entailed by it is greater by far than that of tuberculosis or any other ten diseases. It is, in truth, the greatest scourge of the human race and very appropriately is designated "The Great Black Plague."

In his report for 1906, the surgeon general of the army[30] says: "There were constantly on the sick list reports for this class of diseases 739 men, equal to the loss for an entire year of the services of about eleven companies of infantry. The ratio of syphilis 28.60, tuberculosis 5.19. That is more than five times as many cases of syphilis as tuberculosis."

In the report of the surgeon general of the navy for the fiscal year 1907, he says: "Venereal diseases gave a total of 140,352 sick days, which is equal to the entire loss of the services of 384 men for the year."

Insurance reports show that even in selected cases giving no evidence of syphilis, but presenting a history of the same with apparent cure, life is shortened from expectancy by from ten to twenty years.

The following are a few of the diseases in which syphilis is a large factor:

Of serious diseases of the skin, George Howard Fox[31] says: from 5.7 per cent. to 10.9 per cent; W. M. Zentmayer,[32] 70 per cent. of iritis; Ohmann Dumesnil,[33] pyorrhœa alveolaris, 2-3; Bruchner and Galasesco,[34] aortic insufficiency, 77 per cent. of twenty-two cases; Charles G. Wagner,[35] about 8.75 per cent. of all cases of insanity.

By various observers inherited syphilis is found to be a cause of progressive paralysis of children in about 75 per cent., idiocy, 10 to 17 per cent., juvenile tabes, 64.7 per cent.

In locomotor ataxia, Lesser quoted by Van Riempst,[36] 56 per cent., and as quoted by Solomonson,[37]; Fournier, 93 per cent.; Strumpfell, 90 per cent.; Dejerine, 99 per cent., and Omugard, 100 per cent. All are familiar with Kraft-Ebing's epigram, "Civilization and syphilization."

In general paralysis the lowest estimate of syphilis as a cause is given by Dr. Arthur W. Hurd,[38] of Buffalo, at 60 per cent., Winfield makes it 80 per cent., and Alzheimer,[38] 91 per cent. Fournier,[38] Lederman,[35] Lesser,[35] and

Professor Brisand,[39] President of the Neurological Society of Paris, all agree at 100 per cent.

As to mortality, Dr. James Nevins Hyde[40] says "In the case of inherited syphilis the fatality working destruction alike of ovum, fetus and infant, varies between 80 and 90 per cent. The mortality exceeds that resulting from any of the great plagues of the human race."

Estimate gives about 2,000,000 syphilitics in the United States and statistics record nearly 2 per cent. mortality; but that does not include the large number of terminal diseases which are usually given as a cause on the death certificate.

The experience of Johns Hopkins Hospital as pointed out by Dr. Fuchter[41] seems to indicate that at least 20 per cent. of obscure febrile conditions are due to visceral syphilis.

Dr. A. L. Wolbarst,[42] of New York, gives this testimony: "The damage done to the body politic by the disease themselves and their sequelæ, is without doubt, far in excess, from every point of view, of that caused by all other human ills."

Now, in the face of an evil of such magnitude it would seem that some concerted action would, ere this, have been taken for its control or effacement. For many long years the cry has gone up for relief. Public and private means have been available to stem the progress of cholera, yellow fever and other scourges of comparatively little moment, but this the greatest, is left untouched, unhindered. What has the government done to stop the plague? Nothing. What has the state done to remove the stain? Nothing, absolutely nothing. What has the city done to protect its women and children from contamination? Except for a few raids against notorious resorts, nothing at all. It may come as a surprise to some to learn that there is not a public hospital for the treatment of venereal diseases in the whole state, and that some general hospitals absolutely refuse to receive such cases.

Many of the European, and some American cities have at different times passed ordinances for the regulation of the "social evil," with varying degrees of success. None have proved entirely satisfactory; many have been total failures. The most elaborate system of this kind is now in operation in Berlin and Dresden. A very full report by Surgeon Henry P. DeForrest,[43] of the New York City Police Department, shows that much can be accomplished even among the most refractory classes by a well-devised system and rigid discipline. Nevertheless, there are inherent defects in all such plans which, sooner or later, will render them nugatory. In the first place, reglementation is a police measure. In law, prostitution *per se* is not a crime, and the police properly can do nothing with it except as public peace and order may require. Second, rules when framed can be made to apply to only a small portion of those immediately concerned. Clandestine, always exceeds open prostitution. For instance, in Berlin about 5,000 courtezans are registered; the very best authorities claim that there are 50,000 who are unregistered. Third, it leaves a wide open door for blackmail and police abuse. Fourth, by dispersing the sources of disease it increases the points of infection. Fifth, while those who are registered are inspected and treated if need be, their male associate prostitutes are given perfect freedom to continue their work of spreading disease wheresoever they please. Sixth, and vital, the outrageous and unjust discrimination against woman. No plan ought to or ever will succeed which rests upon such palpable injustice. Gonorrhœa or syphilis is the same in one as in the other; the trade of the one is the opportunity of the other; the receiver and the thief are equally at fault; in fact, the man is likely to be the one the most to blame.

The time at my disposal will not permit further consideration of this subject. I think, though, that the measures heretofore adopted have been formed from a misconception of the real needs. The question before us is not a sociological one, nor one primarily coming under police jurisdiction, although for its solution, social and legislative support will be requisite. It is not even a question of prostitution. Whether that evil—and it is a most serious one—ever ceases or not, it is for us at this time a side issue and a secondary matter. The dominant question is venereal disease; and the solution rests in its cure and prevention. It is of paramount importance and in the first instance purely a sanitary proposition. Bring the people under sanitary laws and the act itself will be educational, and necessarily in a measure repressive. Followed up by other means as from time to time may be indicated, it will not be long before a fair degree of control may reasonably be expected.

At first the work will devolve upon the general practitioner, then such other aids and agencies as can be brought to his assistance. One of primal importance is the education of the public; and here we are met with a condition of things that would be extremely amusing were it not already infinitely tragic. In general society the subject is shunned; the mere mention of venereal in public arouses repulsion. None are so loth to consider the matter as they who most need information concerning it. "O, what fools these mortals be." [44]

As Morrow[45] pointedly remarks, "Social sentiment holds that it is a greater violation of the proprieties of life, publicly to mention venereal disease than privately to contract it." But the people must be taught that these diseases are widespread and dangerous, and of necessity the physician must be the chief agent in beginning the work. The victim of venereal disease should be treated with the same consideration as others; sometimes more so, as many cases are extragenital and innocently contracted. These maladies should be reported to the health authorities

just as surely and promptly as other communicable diseases, but it must be done in such a way as not to disturb the relations normally existing between patient and physician.

Of course, it is to be expected that such requirement will raise a howl of protest, a claim that personal liberty is being invaded. It was so with tuberculosis; what has been the result? It is the same old cry that has always followed any effort in favor of the common weal as against individual passion. It will doubtless be urged that the large numbers involved will render the measure impracticable. Note again the result of tuberculosis notification; but in addition, this fact presents one of the strongest reasons for immediate action. Increasing numbers certainly increase the number of disease foci which are constantly affecting the innocent, "Oh, the shame, the disgrace," some may say. No additional shame need attach except as violators of sanitary rules bring publicity by their own acts; but needed publicity might save many from lifelong shame.

Bearing in mind the constant danger of disease extension, the lamentable ignorance of the laity in regard to prophylaxis, the indifferenc or positive viciousness of a large portion of the diseased, it is evident, beyond successful controversy, that the safety of the public demands supervision over everyone so affected. Therefore, to obtain the earliest possible results in endeavor to curtail the extension of gonorrhœa and syphilis, in my opinion, two measures should be put into operation at once:

1. *Compulsory Notification Under Seal.*—Absolute privacy to be guaranteed as long as the person involved complies with sanitary requirements. (At first these requirements should be left to local boards of health and adapted to prevailing conditions.)

2. *Legislation.*—(*a*) Making it a misdemeanor for druggists or others than licensed physicians to treat or prescribe for these diseases. Penalty, fine of $10 to $50 for each offense.

(*b*) Making it a misdemeanor for any syphilitic or gonorrhœic to cohabit with, or in any other way expose another person, until pronounced cured by a physician from among such as previously may have been designated for that purpose by the State Department of Health. Penalty, $25 to $100 fine, or confinement on indeterminate sentence where the disease can be thoroughly treated; or both in the discretion of the court.

(*c*) Making the willful transmission of syphilis or gonorrhœa a crime, punishable by imprisonment from two to five years, and liability to civil suit for damages by the injured person.

Details, such as circulars of information, cards of instruction, etc., to be furnished as occasion demands.

In explanation of Sec. b, Art. 2, I have to say:

It is known to all physicians that one may be an excellent clinician and have no practical knowledge in bacteriology, or in the use of the microscope. It must be admitted that without this knowledge conscientiously employed, no one is competent to pass on the absence of the gonococcus in a given case of infection. As with examiners in lunacy certain requirements must be met, it is but reasonable that in these cases—far more important, of the discharge of gonorrhœics, only those should be authorized to act who are fully equipped for the purpose. The State Board of Health is mentioned as the source of authorization for reasons which will be obvious to all physicians.

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VARICOSE ULCER AND A METHOD OF TREATMENT.*

By FREDERICK W. LESTER, M.D.,
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THE integument covering the lower extremity of the adult, from the knee down, seems peculiarly liable to become the seat of some form of ulceration. It is a matter of common experience with all of us to find slight wounds in this region of the body to be of more than ordinary importance, on account of the great difficulty in causing them to heal.

Syphilis, among its numerous manifestations, finds this region a fertile field for the development of some of its characteristic ulcerative lesions, principally involving the upper one-half or one-third of the integument of the leg and belonging to the tertiary stage of the disease.

Eczema, with its thickening of the skin, discoloration and severe itching is frequently present, alone, and in the form of a complication to any of the other forms of ulceration or other skin affection here, while erythema multiforme, erythema nodosum, psoriasis, tuberculosis, cancer and various less frequent of the forms of skin disease, select this region occasionally for their location. The occurrence of varicose or chronic ulcer, in this location, is, therefore, a very frequent condition, and it may be found simple and alone, or multiple, or complicated, with one or more of the other affections, the more common of which I have enumerated. Its most common location is at the lower third of the leg, and generally on the inner surface of the front of the limb. It is more frequent in women than in men. It is more frequent in large heavy adults who are obliged to be on their feet for long periods of time, as, for instance, hotel cooks, soldiers and policemen.

The ulcer is, generally, if not always, accompanied by a visible enlargement of the superficial veins of the leg, and of the popliteal region, and very often of the entire saphenous system of veins, covering the front and inner surface of the thigh; showing knots, often as large as a walnut and blue in color, indicating the position of the valves.

Pregnant women give us some exceptionally good examples of these enlarged and tortuous veins, but the varicose ulcer belongs to a more advanced stage of life than the child bearing period. I cannot recall many cases of varicose ulcer occurring in pregnant women.

The feature which is of supreme importance in the local condition in these cases, is the soggy edematous state of the integument. While this is due in part, to the sluggish return of the venous blood in the superficial veins, it is also due in some degree, to a varicose condition of the deep veins, the *venæ comites,* of the leg.

Trendelenburg (loc. cit.) advanced the view, many years ago, that the prime cause of varicose veins was insufficiency of the valves therein, thus throwing the weight of the blood column in the saphena on the peripheral veins.

The thickened, pultaceous state of the skin, referred to in cases where the veins have become varicose, predisposes to ulceration. These ulcers frequently arise from, (1) an injury to the leg; a slight bruise, where the epidermis becomes broken, under these conditions, and we have an ulcer; or, (2) else a vein itself becomes inflamed, or ruptured, and thus the ulcer is produced.

Spasmodic efforts are generally made by the victim, in an effort to heal the ulcer, which are naturally ineffectual, and so at last, sooner or later it comes to the notice of the physician.

If arising from injury in the early stages this ulcer is small, bright red, and discharges thin pus. As it becomes infected; it acquires a red halo around it, and a yellow purulent surface, and at its lower edge is exquisitely sensitive. It grows larger sometimes very rapidly. In the usual form of cases where the vein is inflamed or ruptured, and in all the long standing cases the skin surface is pigmented to a brownish coppery, or bluish color, with the edges of the ulcer white. If the pain and swelling become great, the patient is compelled to lie down, or he learns to rest the leg on some elevated support, and thus nature brings about some aid to the sluggish circulation. The ulcer, while looking quiet and of small size, like a crack in the skin, is often extremely sensitive. At last the ulcer becomes chronic, dark bluish skin surrounds it; the skin pits on pressure, and is full of serum.

Such ulcers persist for years, and are especially observed in the lower classes where the leg will be found wrapped up in a dirty pus-filled, bad-smelling bandage, that has not been changed for days.

These ulcers are classed as sloughing, irritable, eczematous, indolent, callous, etc., according to the local condition when first seen. These chronic varicose ulcers are subject to aggravation by external influences and by neglect, until they attain enormous size, with the limb entirely encircled by the destructive process, ankle stiffened, and the skin in a condition of elephantiasis.

Under such circumstances, amputation is certainly preferable to taking up time in useless treatment.

When of ordinary size they are susceptible of cure by many methods of treatment. The methods mostly used are:

1. Cleanliness, washing the leg, removal of crusts and discharge once or twice a day, with soap and water, or with mild antiseptics, and solutions of acetate of lead, or boracic acid, as warm fomentations.

* Read at the annual meeting of the Seventh District Branch, of the Medical Society of the State of New York, at Geneva, N. Y., September 15, 1910.

2. Elevation of the leg, with confinement to bed, is very beneficial if one can convince patient that he is not wasting time. To be successful it must be strictly carried out.

3. Bandaging, by elastic bandage, strapping, etc. Strapping is one of the best and most universally applicable forms of this style of treatment and is advocated by all surgeons. It is subject to many methods and forms of application, and it may be said at this point, that it is to this method of treatment that this paper has reference. Almost any form of strapping will do good in the varicose or, in fact, almost any kind of ulcer of the leg. Keen recommends, (Keen's Surgery), that the strapping should be carried over the face of the ulcer, solidly applied without fenestræ, but not to encompass the entire limb.

Many of the other text books advocate similar methods.

What we should seek to accomplish, I believe, in these long standing and edematous cases, is to imitate what nature does when the patient is compelled to lie down, *i. e.*, to get the backed up blood out of the veins, both deep and superficial. Then the engorgement of the ulcer is relieved, a healthy circulation is established, and a cure is effected.

The method to which I refer is as follows: Using the ZO adhesive plaster strips in lengths of from 12 to 18 inches, and ¾ to 1 inch wide, we envelope the leg in a net-work of the plaster strips, extending entirely around the leg, from the foot to just below the knee. These strips are applied tightly enough to ridge deeply into the edematous skin, and applied spirally, in both directions, so that when completed, the leg will present a checkered appearance and look as if small squares were attempting to burst through.

The first strip encircles the foot itself, and extending in a spiral manner up the leg; the second, beginning on the opposite side of the foot and crossing the first strip, proceeding on up the leg, in a spiral opposite in direction to the first, so the strips are applied, about one inch apart, up the leg, crossing the ulcer just as they happen to come, which, having been cleansed either with pure olive oil or with a solution of lysol or carbolic acid, and dusted with calomel, is partially or entirely strapped under.

Several thicknesses of sterile gauze may be then placed over the straps covering the ulcer, and a firm muslin bandage applied. The bandage should be removed and re-applied every morning, renewing the gauze, if soiled, but leaving the straps on for a longer period, from two to seven or eight days.

The results of this treatment are very uniformly satisfactory, as a decided improvement may be noted almost from the first, and in a period of from two to four weeks, the ulcer is closed.

Strapping as a treatment for ulcer has been used for generations, and the only claims for originality that I can make, for this method, are these, viz.: 1. The strapping to be carried entirely around the limb, supporting the circulation. 2. The fenestrated pattern of application, permitting drainage.

As regards the radical treatment of varicose veins, many methods have been advanced. Trendelenburg (Sajons Ency.) advocated ligating the saphena near the saphenous opening, partial removal of the veins affected, multiple ligation, garter incision with ligation, entire removal by long incision, and the Mayo method of removal are among radical procedures adopted. They are beneficial to varicose ulcer, if it exists at the time of operation, but are used preferably in the extreme cases, where palliative treatment has failed.

In conclusion it is almost needless to say that an elastic bandage, or stocking, should be worn after a varicose ulcer has been cured, in order to prevent recurrence.

ANNOUNCEMENTS.

The American Proctologic Society's Prize for the Best Original Essay on any Disease of the Colon by a Graduate of (Not a Fellow of the Society) or a Senior Student in any Medical College of the United States or Canada.

The American Proctologic Society announces, through its committee, that the cash sum of $100 will be awarded, as soon as possible in 1911, to the author of the best original essay on any disease of the colon in competition for the above prize.

Essays must be submitted to the secretary of the committee, on or before May 10, 1911. The address of the secretary is given below, to whom all communications should be addressed.

Each essay must be typewritten, *designated by a motto or device, and without signature or any other indication of its authorship, and be accompanied by a separate sealed envelope, having on its outside only the motto or device contained on the essay, and within the name, the motto or device used on the essay, and, the address of the author.* No envelope will be opened except that which accompanies the successful essay.

The committee will return the unsuccessful essays, if reclaimed by their writers within six months, provided return postage accompanies the application.

The committee reserves the right not to make an award if no essay submitted is considered worthy of the prize.

The competition is open to graduates of medicine (not fellows of the society), and to members of the senior classes of all colleges in the United States or Canada.

The object of the prize and competition is to stimulate an increased interest in, and knowledge of proctology.

The committee shall have full control of awarding the prize and the publication of the prize essay, and it shall be the property of the American Proctologic Society. It may be published in the transactions of the society and also as a separate issue if deemed expedient. The committee may increase its membership if deemed advisable.

DR. DWIGHT H. MURRAY, *Chairman,*
DR. SAMUEL T. EARLE,
DR. JEROME M. LYNCH,
DR. ALOIS B. GRAHAM,
DR. LEWIS H. ADLER, JR., *Secretary,*
1610 Arch Street, Philadelphia, Pa.

THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH.

66th Street and Avenue A, New York, N. Y.

ANTI-MENINGITIS SERUM.

The Rockefeller Institute for Medical Research, in accordance with an announcement made last summer, now gives notice that it has discontinued the general distribution of anti-meningitis serum which it has undertaken without charge ever since the discovery of this remedy for cerebro-spinal meningitis. The effectiveness of this remedy in that form of meningitis which is caused by the diplococcus intracellularis (Weichselbaum) having been generally accepted by medical authorities throughout the world, it has seemed appropriate that the Rockefeller Institute should devote to other lines of investigation the funds hitherto needed for the gratuitous distribution of the serum, handing over to the public health authorities of municipalities and states, and to commercial establishments, the routine preparation of the serum for general use. The anti-meningitis serum will thus take its place with vaccine and diphtheria anti-toxin as an approved agency for the protection of public health.

The Board of Health of the City of New York is the first of American boards of health to undertake the regular production of anti-meningitis serum. It will provide for the free distribution of serum to all hospitals in the city, and, at the outset, to all physicians who apply for it. Later the gratuitous distribution other than to hospitals will be limited to those cases in which the physician certifies to the hardship that would be caused by a money charge. All others will be required to pay for the serum at a price covering its estimated cost. Pending the production of the serum in other localities, the New York Board of Health will, as a matter of humanity, supply such urgent requests as may come to it from outside the state, but this provision will probably be necessary for only a short time. Within the City of New York the Board of Health will designate a few stations where serum will be kept on hand.

The statistics show that the death rate from cerebro-spinal meningitis has been reduced to less than a third of its former amount by the early use of anti-meningitis serum. That statistics may be reliable, however, it is important that all distributing agencies should provide means for controlling the bacteriological diagnosis. Otherwise the serum will undoubtedly be applied in some cases of meningitis due to causes which are not subject to the action of this serum, and not a few cases of epidemic meningitis will be deprived of the benefit of its use.

The serum is administered by being injected into the spinal canal by means of lumbar puncture, an operation which is also required to secure the fluid for bacteriological diagnosis; and several separate injections of the serum are required in treating a given case. The effective employment of the serum is likely, therefore, to be restricted on account of the experience and skill required in its administration and the high cost of the commercial product, unless the preparation, distribution, and, when necessary, administration, are undertaken by state and municipal authorities.

February 13, 1911. JEROME D. GREENE,
General Manager.

Medical Society of the State of New York

17 West 43d Street, New York.

March 15, 1911.

The regular annual meeting of the House of Delegates of the Medical Society of the State of New York will be held on April 17, 1911, at 8.30 P. M., in the Supreme Court Room, City Hall, corner Maiden Lane and Eagle Street, Albany, N. Y.

CHARLES STOVER, M.D., *President,*
WISNER R. TOWNSEND, M.D., *Secretary.*

The following amendments to the Constitution and By-Laws will be presented for action:

Amend Article II. of the Constitution by adding a new Section 4, as follows:

"Section 4. There shall be two forms of membership, namely, active and associate. Active members shall pay dues, as provided in the by-laws, and be entitled to all the rights of property and every other privilege of the Society. Associate members shall pay no dues and shall be entitled to no rights of property and receive none of the privileges of the Society. Any active member may be admitted to associate membership for any reason which may be considered sufficient by a Board of Censors of a County Society, upon a majority vote of the active members present at any County Society meeting."

Introduced by Dr. Fitch and duly seconded.

Amend Chapter VII., Section 1 of the By-Laws to read as follows:

"The following shall be the standing and annual committees of this Society:

The standing committees shall be one on Legislation and one on Public Health.

The annual committees shall be one on Scientific Work and one on Arrangements.

The standing committees shall be elected by the House of Delegates; the annual committees shall be appointed by the President.

The remaining portion of this section to remain as at present. That Section 2 become Section 4, Section 3 become Section 2, and Section 4 become Section 3."

Introduced by Dr. Roe and duly seconded.

Amend Chapter VIII. of the By-Laws so as to transfer Madison County from the Sixth to the Fifth District Branch.

Introduced by Dr. Macdonald and duly seconded.

Action on notice presented at last meeting to change time and place of annual meeting. See Constitution, Article VI, Section I. Introduced by Dr. C. A. Wall and duly seconded.

BY-LAWS.

CHAPTER III.

House of Delegates.

Sec. 8. The following shall be the order of business at the meetings of the House of Delegates:

1. Calling the Meeting to Order.
2. Roll call by the Secretary.
3. Reading of the Minutes of the previous meeting.
4. President's report.
5. Annual report of the Council.
6. Report of the Secretary.
7. Report of the Treasurer.

8. Reports of Standing Committees.
9. Reports of Special Committees.
10. Unfinished business.
11. New business.

Sec. 9. The Officers and Committees of the Society to be elected by the House of Delegates shall be elected at an adjournment of the annual meeting of the House of Delegates, which adjourned meeting shall be held at a convenient hour on the first day of the annual meeting of the Society.

At the election of officers to be held on Tuesday (time to be selected at the meeting on Monday night), the following officers are to be elected:

A President to succeed Dr. Charles Stover.

A First Vice-President to succeed Dr. J. W. Grosvenor.

A Second Vice-President to succeed Dr. C. W. M. Brown.

A Third Vice-President.

A Secretary to succeed Dr. Wisner R. Townsend.

A Treasurer to succeed Dr. Alexander Lambert.

A Chairman of the Committee on Scientific Work, to succeed Dr. L. H. Neuman.

A Chairman of the Committee on Public Health, to succeed Dr. J. M. Van Cott.

A Chairman of the Committee on Legislation, to succeed Dr. Frank Van Fleet.

A Chairman of the Committee on Arrangements, to succeed Dr. W. J. Nellis.

Six delegates to the American Medical Association for two years, to succeed Drs. A. T. Bristow, E. H. Bartley, H. L. Elsner, J. E. Sadlier, and to fill the vacancies caused by the death of Drs. Charles Jewett and W. S. Ely.

Five alternates to the American Medical Association for two years, to succeed Drs. J. A. Fordyce, J. P. Warbasse, E. M. Foote, W. T. Mulligan and C. G. Rossman.

Only members of two years' standing in the American Medical Association are eligible for the position of Delegate or Alternate.

March 15, 1911.

The 105th annual meeting of the Medical Society of the State of New York will be held on April 18, 1911, at 10 A. M., in the Common Council Chamber, City Hall, corner Maiden Lane and Eagle Street, Albany, N. Y.

CHARLES STOVER, M.D., *President,*
WISNER R. TOWNSEND, M.D., *Secretary.*

PRELIMINARY PROGRAM.

Dr. A. L. Benedict—"Report of Chylous Cyst of Mesentery and Statistics of Literature."

Dr. Edward B. Angell—"The Nervous Woman."

Dr. James T. Pilcher—"The Diagnosis and Surgical Indications of Duodenal Ulcer."

Dr. Albert Warren Ferris—"The Prevention of Insanity."

Dr. Willy Meyer—"The New Thoracic Department of the German Hospital, New York."

Dr. Louis Faugeres Bishop—"Arteriosclerosis."

Dr. Parker Syms—Subject to be announced.

Dr. A. Sturmdorf—"Studies of a Local Hæmatological Factor in the Causation of Uterine Hemorrhage."

Dr. E. MacD. Stanton—"Critical Analysis of End Results in Cases Operated Under the Diagnosis of Chronic Appendicitis."

Symposium on "606"—Arranged by Dr. James McF. Winfield, Dr. Howard Fox (The Wasserman), Dr. Samuel J. Meltzer (The Theory), Dr. Swift (The Technic), Dr. Pollitzer and Dr. Gottheil (General Considerations), Dr. Fordyce (The Clinical Side). Discussion opened by Dr. Henry L. Elsner.

Pathological Exhibit, Hoagland Laboratory—"Different Varieties of Tuberculosis—Human, Bovine, Ovian and Piscine."

Pathological Exhibit, Dr. Oertel, Sage Foundation.

Dr. Edward D. Fisher—"The Relationship of Tabes to General Paresis—Are They the Same Disease Differing Only in the Situation of the Lesion?"

Dr. Walter B. James—"The Clinical Observations of Cardiac Arrhythmias from the Modern Standpoint," with lantern slides.

Dr. Leo H. Neuman—"The Modern Therapy of Cardiac Diseases."

Dr. Lucien Howe—"The Methods for Preventing Gonorrhœal Ophthalmia."

Dr. Samuel G. Gant—"The Etiology, Pathology, Symptoms, Diagnosis and Treatment of Intestinal Tuberculosis."

Dr. S. M. Shook, Passed Asst. Surg. U. S. N.—"Diagnosis of Some Common Tropical Infections."

Dr. John M. Swan—Subject to be announced.

Dr. Edwin Beer—"Concerning Treatment of Bladder Tumors with the High Frequency Current of Oudin."

Nr. Nathan Jacobson—Subject to be announced.

Dr. H. C. Gordinier—Subject to be announced.

Dr. William A. Howe—"The Co-operation of the Practicing Physician and Health Officer."

Dr. Isaac Adler—"Some Orthodiascopic Observations on the Size of the Human Heart and Aorta, and Its Relation to Certain Systemic Affections."

Dr. A. H. Garvin—"Auscultation of the Cough. Its Importance."

Dr. M. M. Lucid—"The Operative Treatment of Fractures."

Dr. Le Roy Broun—"Operation for Retro-displaced Uteri by Shortening the Round Ligaments through the Inguinal Canal after Abdominal Section by the Transverse Incision."

Dr. Fred. H. Albee—"Fractures of the Tarsal Bones, with Radiograms."

Dr. Paul M. Pilcher—"On the Diagnosis of the Surgical Diseases of the Kidney."

Dr. Harry G. Watson—"Taking the Cure at Carlsbad."

Dr. J. M. Rooney—"The Significance of High Blood Pressure."

Dr. Edgar A. Vander Veer—"Appendicitis Complicating Typhoid Fever."

Col. John Van Hoff, Medical Corps, Fort Jay, New York—"Vaccination in the Army."

Dr. Wm. F. Campbell—"Developmental Defects of the Abdominal Viscera with their Surgical Significance."

Dr. Martin B. Tinker—Subject to be announced.

Dr. Lewis G. Cole—"Radiographic Diagnosis of Lesions of the Gastro-intestinal Tract with Lantern Slide Demonstration; and Cinematographic Demonstration of the Peristalsis in Normal and Pathological Cases."

The Annual Banquet will be held at the Hotel Ten Eyck, April 19th, at 8 P. M. Those desiring seats will please apply to Dr. W. J. Nellis, Chairman on Arrangements, 210 State Street, Albany. Price of tickets, $3.00.

SUGGESTIONS TO ENDORSING OFFICER OF MEETING IN INSTRUCTING PERSONS IN ADVANCE RESPECTING REDUCTION AUTHORIZED ON THE CERTIFICATE PLAN.

A reduction of fare and three-fifths on the certificate plan from points in New York State has been secured for persons attending the meeting of The Medical Society of the State of New York; Albany, N. Y., April 17th-19th.

The following directions are submitted for your guidance:

1. Tickets at the regular full one-way, first-class fare for the going journey may be secured within three days (exclusive of Sunday) prior to and during the first two days of the meeting. The announced opening date of the meeting is April 17th, and the closing date is April 19th, consequently you can obtain your going ticket and certificate not earlier than April 13th, nor later than April 18th.* Be sure that, when purchasing your going

* Except that from stations from which it is possihle to reach place of meeting by noon of April 19th, tickets may also be sold for morning trains of that date.

ticket, you request a certificate. *Do not make the mistake of asking for a receipt.*

2. Present yourself at the railroad station for ticket and certificate at least thirty minutes before departure of train on which you will begin your journey.

3. *Certificates are not kept at all stations.* If you inquire at your home station, you can ascertain whether certificates and through tickets can be obtained to place of meeting. If not obtainable at your home station, the agent will inform you at what station they can be obtained. You can in such case purchase a local ticket thence, and there purchase through ticket and secure certificate to place of meeting.

4. Immediately on your arrival at the meeting present your certificate to the endorsing officer, Dr. W. J. Nellis.

5. It has been arranged that the Special Agent of the Trunk Line Association will be in attendance on April 17th, 18th, and 19th, from 9 A. M. to 6 P. M., to validate certificates. *A fee of 25 cents will be charged at the meeting for each certificate validated.* If you arrive at the meeting and leave for home again prior to the Special Agent's arrival, or if you arrive at the meeting later than April 19th, after the Special Agent has left, you cannot have your certificate validated and consequently you will not get the benefit of the reduction on the home journey. *No refund of fare will be made on account of failure to have certificate validated.*

6. So as to prevent disappointment, it must be understood that the reduction on the return journey is not guaranteed, but is contingent on an attendance at the meeting of not less than 100 persons holding regularly issued certificates obtained from ticket agents at starting points, showing payment of regular full one-way first-class fare of not less than 75 cents on going journey.

7. If the necessary minimum of 100 certificates are presented to the Special Agent, and your certificate is duly validated, you will be entitled up to and including April 22d to a continuous passage ticket by the same route over which you made the going journey, at three-fifths of the regular one-way first-class fare to the point at which your certificate was issued.

COUNTY SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

Regular Meeting, Tuesday, February 14, 1911.

SCIENTIFIC PROGRAM.

"The Etiology and Treatment of Certain Forms of Periodical Headache," N. A. Pashayan, Schenectady.

"The Subconscious Mind," H. L. Towne.

"A Case of Congenital Stenosis of the Ilium (Presentation of a Specimen)," F. Vander Bogert, Schenectady.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

Regular Meeting, Tuesday, February 28, 1911.

SCIENTIFIC PROGRAM.

"The Cause of Pain in Angina Pectoris," Chas. Stover, Amsterdam.

"The Diagnosis and Treatment of Renal and Ureteral Calculi," D. N. Eisendrath, Chicago, Ill.

Following the meeting a reception was tendered to the speakers at the Albany Club.

ANNOUNCEMENT.

The President, Dr. Charles Stover, has appointed Dr. Eli H. Long, of Buffalo, delegate to the meeting of the Association of American Medical Colleges, to be held in Chicago, February 27 and 28, 1911.

LEGISLATIVE NOTES.

Christian Science and the Practice of Medicine.

The question as to whether the Christian Science "healer" is to be allowed to practice medicine under the exemptions in the medical practice act, is to be submitted to Judicial Review.

Willis Vernon Cole has been held by Magistrate Freschi for practicing medicine illegally and the case is to be tried in the near future.

The matter is of such importance that the opinion of Justice Freschi is herewith reprinted. It is very evident in reading this opinion that the excellent brief prepared by Mr. Vandiver, counsel for the Medical Society of the County of New York, had considerable weight with the justice who rendered the decision in the case.

CITY MAGISTRATES' COURT OF THE CITY OF NEW YORK.

FIRST DIVISION—SECOND DISTRICT.

The People of the State of New York,

against

Willis Vernon Cole,

Defendant.

Almuth C. Vandiver, Esq., attorney for complainant.

William Travers Jerome, Esq., attorney for defendant.

Freschi, C. M.

This is an application for a warrant made by the complainant, The New York County Medical Society through its learned counsel, upon a summons issued by me in pursuance of the provisions of the "Inferior Criminal Courts Act of the City of New York" (Laws 1910, Chap. 659, sec. 82).

The information presented and filed charges the defendant, Willis Vernon Cole, with the practicing of medicine, without being duly qualified and licensed, as defined in section 160 of the Public Health Law of the State of New York. This section provides:

> * * * "7. The practice of medicine is defined as follows: A person practices medicine within the meaning of this article, except as hereinafter stated, who holds himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition, and who shall either offer or undertake, by any means or method to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition."

The exception in the Health Law is stated in sec. 173 of the same law, as follows:

> "This article shall not be construed to affect * * * the practice of the religious tenets of any church."

It is alleged in the information and the testimony establishes that the defendant did hold himself out to and did actually treat Mrs. Isabella Goodwin, a police matron, and Mrs. Frances Benzecry, and the latter's infant daughter, Lucille, for the ailments and diseases from which they claimed they suffered.

His treatment consisted substantially in sitting opposite each patient for several minutes in mental prayer and in reading to Mrs. Benzecry certain passages from a book of Mary Baker G. Eddy, entitled "Science and Health."

The defendant admits that the treatment given by him was the recital of prayers, and asserts that in this treatment he was practicing the religious tenets of the Church of Christ, Scientist, of which he was a believer and known as a "healer" or "practitioner." From his testimony it appears that his authority to "treat" was derived from the publication of an advertisement in the *Christian Science Journal,* a publication of this Church. This advertisement was paid for at advertising rates, and the application to insert the "card" or advertisement was passed upon by the "Publication Committee" of this Church, which made, it is claimed, a personal

investigation as to defendant's life and his moral fitness and only after it received three signed statements of persons who had been cured by him. In the language of the witness, Virgil O. Strickler, first reader of the Christian Science Church, "the publishers of the *Christian Science Journal* publish the cards of practitioners in the Journal whom the publishers of the Journal have investigated and consider worthy to have their names printed in the Journal. There are many other Christian Science practitioners whose names are not included in the Journal, but those included in the Journal are those who have been investigated by the proper officials of the organization, and, in a sense, they are looked upon as being better practitioners." Furthermore, the defendant testified that he practiced before the publication of this advertisement.

"Practitioner" Cole maintained his offices in an office building at No. 225 Fifth Avenue, New York City, and there the patrons or clients who visited him were treated for their alleged physical ills and to alleviate suffering by methods known as Christian Science treatment, and this for pay, the charges therefor being fixed, for each visit.

Mrs. Goodwin narrates in detail her visit to the defendant's place of business on January 7, 1911, and states that upon entering his private office the defendant inquired, "What is the matter with you?" and that she replied that she was suffering from palpitation of the heart and bladder trouble and whereupon "he told me to sit down in a chair." The defendant then seated himself opposite her, a few feet away, and held his hand to his face for about fifteen minutes.

Complainant further testified that Mr. Cole said to her, "I think you will be benefited at once, you seem to be responding to treatment," and she paid his charges of $2, when the defendant told her to call again.

She admits that the defendant did not perform any operation, nor did he make any examination or give any prescription.

Mrs. Benzecry testified that on her first visit to the defendant's office she inquired if he was a doctor and that he said he was a Christian Science healer; and when he inquired what was the trouble, she said, that she suffered in the eyes and Mr. Cole said, "I must keep my glasses off." The defendant told her in the course of the visit that he could cure locomotor ataxia by prayer. She asked him about a pain in her back and he made reply that it is a disease, but couldn't tell what kind of sickness it was. She discussed the system of treatment generally and paid defendant his fee charged for the treatment on the occasion of each of several visits.

The learned counsel for the defendant has waived the question as to whether or not these facts constitute "treatment" within the meaning of the "practice of medicine" as the same is defined in the statute, and relies entirely upon the following language of sec. 173 of the law, which reads:

> "This article shall not be construed to affect * * * the practice of the religious tenets of any church."

When the constitution of 1894 was adopted, Section 3, Article 1 of the preceding constitution of 1846, without change, was continued in full force, providing as follows:

> "The free exercise and enjoyment of religious profession and worship, without discrimination or preference, shall forever be allowed in this State to all mankind; and no person shall be rendered incompetent to be a witness on account of his opinions, on matters of religious belief; *but the liberty of conscience hereby secured shall not be construed as to excuse acts of licentiousness, or justify practices if inconsistent with the peace or safety of this State.*"
>
> New York Constitution, Article 1, Section 3.

Thus the establishment of freedom of worship and religious liberty was guaranteed.

I must hold that the defendant was given no greater liberties by the exception provided in the Public Health Law than he enjoyed under the State and Federal Constitutions. It is undisputed that religious liberty and the freedom of worship were among the defendant's inalienable rights even before the enactment of that statute law.

The establishment and the teaching of the religion in which the defendant is an ardent believer contravened no law. Prohibiting the free exercise thereof would clearly be unconstitutional; but the freedom of religion cannot be extended to prevent the punishment of crime.

> Davis vs. Beason, 133 U. S. 333.

Story in his work on the Constitution (fifth Edition) says at sec. 1879, that the whole power over the subject of religion is left exclusively to the state governments to be acted upon according to their own sense of justice. The organic basic law of our state must, therefore, govern.

The Public Health Law (supra) does not infringe upon the Constitution. It regulates the practice of medicine, and thereby the State protects the health of its citizens as it has a right to do, acting as it must, according to its own sense of justice.

> Dent. vs. West Virginia, 129 U. S. 114.
> People vs. Mulford, 125 N. Y. Supp. (App. Div.) 680, 140 App. Div. 716.

The defendant now invokes his constitutional prerogative of freedom of worship and religious liberty. He pleads exemption from the operation of the Public Health Law under the circumstances of this case, in that he claims to be engaged in the observances of certain religious tenets of the Christian Science Church.

I am of the opinion that the practice of the treatment of sickness and disease by inaudible prayer as established by the evidence in this case violates the law of this state.

The only theory on which the defendant can claim any right to practice as a "healer" of diseases and sickness is that the reservation stated in the Public Health Law of this state to the effect that the "article shall not be construed to affect * * * the practice of religious tenets of any church," excludes him from the operation of the definition of the "practice of medicine."

It is, of course, true that the State Constitution grants to every person freedom of conscience in matters of religion; but, on the other hand it specifically provides that *"the liberty of conscience hereby secured shall not be construed as to excuse acts of licentiousness or justify practices inconsistent with the peace or safety of this State."*

A composite definition of the words used in the clause of the Public Health Law under consideration affecting the practice of religious tenets, may be stated as the act, influence, or purpose of carrying out the regular pursuit of some profession concerned with religion in the matter of opinion, principle, dogma or doctrine which a person, school or sect holds or maintains as true.

Thus, it is to be seen that the right of freedom of religious belief and worship is purely personal and individual (not the subject of governmental review) and that no one shall be affected in the exercise of his belief and faith in the Divine Being so long as the beliefs of the Church and the exercise thereof do not jeopardize others and non-believers. The field of personal opinion is inviolable. The Church and the State must be independent. The inviolability of the freedom of religious profession and worship must, however, in no wise impair or menace the safety of the state or the security of its people in their health.

The public health and the treatment of disease are matters of great concern to all states and the subject of proper public regulation in the exercise of their police powers.

In the matter of the First Church of Christ, Scientist (6 Pa. Dist. Rep. 745) an application was made for a

charter of a proposed corporation "to preach the Gospel according to the doctrine of Christ, as found in the Bible and stated in the tenets of Christian Science." One of the tenets stated is "we acknowledge the way of salvation demonstrated by Jesus to be the power of truth over all error, sin, *sickness and death;* and the resurrection of human faith and understanding to seize the great possibilities and living energies of divine life."

One of the rules of these tenets prescribed: "To become a member of the First Church of Christ, Scientist, in Philadelphia, Pa., the applicant must be a believer in the doctrines of Christian Science, according to the teaching contained in the book "Science and Health" * * * . The Bible and the above-named book, with other books by the same author, must be his only textbooks for self-instruction in Christian Science, and for practicing metaphysical healing.

Presiding Judge Pennypacker, subsequently Governor of the Commonwealth of Pennsylvania, in refusing the charter, wrote (p. 746):

> "If the purpose of the proposed corporation were only to inculcate a creed or to promulgate a form of worship no question could arise, because under the constitution of Pennsylvania private belief is beyond public control, and there can be no interference with the right of conscience. But the most cursory examination of the * * * testimony and of the tenets, and of the book of Mrs. Eddy, which is placed upon a level with the Bible in the teachings of this Church, shows that there is a Christian faith and a science, not only a belief but a purpose to accomplish practical results; not only an attempt to educate the community to the importance of the recognition of certain ethical principles, but an effort to establish a prescribed method of practicing the art of healing the diseases of the body. * * * The treatment extends to the most serious and fatal diseases, rheumatism, scrofula, cancer, small-pox and consumption."

The Court in that case quotes from page 422 of Mrs. Eddy's book, viz.:

"If the case to be mentally treated is consumption, take up the leading points included according to belief in that disease. Show that it is not inherited, that inflammation, tubercles, hemorrhage, and decomposition, are beliefs. * * * Then these ills will disappear. If the lungs are disappearing, this is but one of the beliefs of mortal mind."

No knowledge, it seems, was required of anatomy, physiology, pathology or hygiene; the whole system was based on the theory that all diseases, even those of contagious character, were mere beliefs and not real facts.

On appeal, the Supreme Court of Pennsylvania reviewed the whole case and held that such a system is opposed to the general policy of the law of that state relative to the existence and treatment of disease. (See 205 Pa. St. Rep. 543.)

Mr. Justice Potter, for the Appellate Court, writing in the case on page 550, said:

> "We are not to consider the matter from either a theological or metaphysical standpoint, but only in its practical aspects. It is not a question as to how far prayer for the recovery of the sick may be efficacious. The common faith of mankind relies not only upon prayer, but upon the use of means which knowledge and experience have shown to be efficient. And when the results of this knowledge and experience have been crystallized into legislative enactments, declarative of what the good of the community requires in the treatment of disease and of the qualifications of those who publicly deal with disease, anything in opposition thereto may fairly be taken as injurious to the community. Our laws recognize disease as a grim reality to be met and grappled with as such. To secure the safety and protect the health of the public from the acts of incompetent persons, the law prescribes the qualifications of those who shall be allowed to attempt the cure or healing of diseases. It is not for the purpose of compelling the use of any particular remedies, or of any remedies at all. It is only designed to secure competent service for those who desire to obtain medical attendance. In certain diseases the individual affected may be the only one to suffer for lack of proper attention; but in other types of a contagious or infectious nature they may be such as to endanger the whole community and here it is the policy of the law to assume control and require the use of the most effective known means to overcome and stamp out disease which otherwise would become epidemic. In such cases, failure to treat, or an attempt to treat, by those not possessing the lawful qualifications are equally violative of the policy of the law. It may be said that the wisdom or the folly of depending upon the power of inaudible prayer alone, in the cure of disease, is for the parties who invoke such a remedy. But this is not wholly true. 'For none of us liveth to himself, and no man dieth to himself,' and the consequences of leaving disease run unchecked in the community is so serious that sound public policy forbids it. Neither the law nor reason, has any objection to the offering of prayer for the recovery of the sick. But in many cases both law and common sense require the use of other means which have been given to us for the healing of sickness and the cure of disease. There is ample room for the office of prayer, in seeking for the blessing of restored health even when we have faithfully and conscientiously used all the means known to the science and art of medicine."

In Nebraska and Ohio, where the State Constitutional provisions are similar to that of the New York State Constitution, providing for liberty of conscience and freedom of religious belief, the practice of the art of faith healing as Christian Science is often known has been held to be a violation of the law regulating the practice of medicine. (State vs. Buswell, 40 Neb. 158; State vs. Marble, 72 Ohio 21.)

In State vs. Buswell (supra) the defendant, a Christian Scientist, was charged with practicing medicine without a license. He excused his acts on the ground that he treated the sick by prayer; that the Constitution of that state contained this clause: "All men have a natural and indefeasible right to worship Almighty God according to the dictates of their own consciences." (Sec. 4, Art. I, Const. of Nebraska, 1875), and that to prohibit him to heal the sick by prayer would be also in violation of the Nebraska Enabling Act, providing for perfect toleration of religious sentiment, and that no person should ever be molested in person or property on account of his or her mode of religious worship.

Chancellor Ryan, writing for the Court, at page 169, says:

> "In light of these instances, cited from defendant's own authority, it is confidently believed that the exercise of the art of healing for compensation, whether exacted as a fee or expected as a gratuity, cannot be classed as an act of worship. Neither is it the performance of a religious duty. * * * The evidence upon which the case was tried convinces us that the defendant was engaged in treating physical ailments of others for compensation. He was within none of the exceptions provided by statute."

The Nebraska case seems to be conclusive upon the question at bar—whether or not the defendant had operated on, or professed to heal, or prescribed for or otherwise treated any physical or mental ailment of another.

The Nebraska case was followed by the Ohio Supreme Court in State vs. Marble (supra).

There the defendant was prosecuted for unlawful practice of medicine. His plea in defense was substantially that prescribing, for a fee, Christian Science treatment for a cure of a bodily ailment is not practicing of

medicine within the meaning of the statute; that Christian Science is a religious belief; and that he treated in obedience to a religious and conscientious duty. The Court held that the practice of medicine is subject to such reasonable regulations or conditions as the state in the exercise of the police power may prescribe (France vs. The State, 57 Ohio St. 1; The State of Ohio vs. Gardner, 58 Ohio St. 599).

The Court in the Marble case, by Mr. Justice Summers, at page 31, wrote:

> "But if the inhibition of the statute tends to the public welfare and is not obnoxious on other grounds it is not within the provision of the bill of rights. In Bloom vs. Richards, 2 Ohio St. 387, 392, Thurman, J., says: 'Acts evil in their nature or dangerous to the public welfare, may be forbidden and punished, though sanctioned by one religion, and prohibited by another; but this creates no preference whatever, for they would be equally forbidden and punished if all religions permitted them. Thus, no plea of his religion should shield a murderer, ravisher or bigamist; for community would be at the mercy of superstition, if such crimes, as these could be committed with impunity. because sanctioned by some religious delusion."

At page 34, the opinion continues and quotes as follows:

> "The power of the state to provide for the general welfare of its people authorizes it to prescribe all such regulations as, in its judgment, will secure, or tend to secure them against the consequences of ignorance and incapacity as well as deception and fraud. As one of the means to this end it has been the practice of different states, from time immemorial to exact in many pursuits a certain degree of skill and learning upon which the community may confidently rely." * * *

Disposing of the defendant's contention that the statute interfered with the defendant's right to worship God alone according to the dictates of his conscience, the learned Justice said (p. 36):

> "But it is said the offering of prayer to God for the recovery of the sick is not against public health or public morals or public safety or public welfare. Admitted. But is that a correct statement of the case? If the defendant prayed for the recovery of Hehl that was the treatment he gave him for the cure of his rheumatism and for which Hehl paid him. He was practicing healing or curing of diseases. To assume that legislation may be directed only against administering of drugs or the use of the knife is to take a too narrow view. The subject of the legislation is not medicine and surgery. It is the public health or the practice of healing. The state might make it an offense as has been done in New York (People vs. Pierson, 176 N. Y. 301) for any one to omit to furnish medical attendance to those dependent upon him and at the same time leave him at liberty to die in any manner he may choose. But this is not all. While the state may not deem it wise to go to the extent of requiring the individual to avail himself of the services of a physician yet it may not wish to hasten his death and so to transfer to itself the burden of supporting those dependent upon him by making it possible for him to employ an empiric. Again, where there is an infectious or contagious disease the public welfare may be vitally affected by a failure promptly to recognize it and so the state is interested in permitting to practicing the art of healing only those possessing recognized qualifications. So that, regarding disease rather than the treatment of it as the subject of the legislation, it is not necessary that the statute be preventive of particular practices, but it may make the right to undertake the treatment of disease dependent upon the possession of reasonable qualifications."

In the case of the People vs. Pierson, cited with approval, in the opinion of the learned Ohio Court, the Court of Appeals of this state has decided that it was criminal to withhold "medical attendance" from a sick child and to treat the same solely according to the religious beliefs of the father of the child. In this case, the defendant, Pierson, was indicted for manslaughter for neglecting to furnish medical attendance to his child. The Court held that the medical attendance mentioned in the statute was the medical attendance of a regularly licensed practitioner.

Discussing the contention as to the constitutionality of the provision of the Penal Code requiring a parent to provide "medical attendance" the learned Court in People vs. Pierson, supra, at page 210, through Mr. Justice Haight, said:

> "The remaining question which we deem it necessary to consider is the claim that the provisions of the Code are violative of the provisions of the Constitution, article 1, section 3, which provides that 'the free exercise and worship, without discrimination or preference shall forever be allowed in this state to all mankind; and no person shall be rendered incompetent to be a witness on account of his opinion on matters of religious belief, but the liberty of conscience hereby secured shall not be so construed as to excuse acts of licentiousness, or justify practices inconsistent with the peace or safety of this state.' The peace and safety of the state involves the protection of the lives and health of its children, as well as the obedience to its laws. Full and free enjoyment or religious profession and worship is guaranteed, but acts which are not worship are not. A person cannot, under the guise of religious belief, practice polygamy and still be protected from our statutes constituting the crime of bigamy."
>
> * * * "We are aware that there are people who believe that the Divine power may be invoked to heal the sick, and that faith is all that is required. There are others who believe that the Creator has supplied the earth, nature's storehouse, with everything that man may want for his support and maintenance, including the restoration and preservation of his health, and that he is left to work out his own salvation, under fixed natural laws. There are still others who believe that Christianity and science go hand in hand, both proceeding from the Creator; that science is but the agent of the Almighty through which he accomplishes results, and that both science and Divine power may be invoked together to restore diseased and suffering humanity.
>
> "But sitting as a Court of law for the purpose of construing and determining the meaning of statutes, we have nothing to do with these variances in religious beliefs and have no power to determine which is correct. We place no limitation upon the power of the mind over the body, the power of faith to dispel disease, or the power of the Supreme Being to heal the sick. We merely declare the law as given us by the legislature."

In the People vs. Mylod, 20 R. I. 632, the Court held that the faith healing as taught by Christian Science is not a practice of medicine. The defendant was the President and First Reader or Pastor of the Providence Church of Christ, Scientist. He had treated one witness for malaria and one for grippe. He testified, in his own behalf, that he did not attempt to cure the witnesses by any means or power of his own; that he assured them that it is God alone who heals, acting through the human mind, and that all he did was to engage in silent prayer for them. The Court cited the Nebraska case (supra) but did not follow it; on the contrary quoted Smith vs. Lane, 24 Hun 632, approvingly.

In the State of New York, the cases of Smith vs. Lane (supra) and State vs. Mylod (supra) have been

disapproved in the case of People vs. Alcutt, 117 App. Div. 546, affirmed in 189 N. Y. 517, it appearing from the report that the District Attorney asking for the affirmance of that case was William Travers Jerome, Esq., the learned counsel for the defendant here.

Mr. Justice Clarke, writing (p. 551) for the Appellate Division in the last mentioned case said:

> "The appellant cites five cases in other states as in harmony with Smith vs. Lane (supra) State vs. Liffring (61 Ohio St. 39) was under the peculiar language of the statutory definition which was held to require the use of drugs in order to constitute the practice of medicine. There was subsequently an amendment of the Ohio statute, and the subsequent cases of State vs. Gravett (65 Ohio St. 289) and State vs. Marble (72 id. 21) were decided the other way. State vs. Gerring (70 N. Y. L. 34) was also decided upon the wording of the statute. Nelson vs. State Board of Health (108 Ky. 769; 57 S. W. Rep. 501) and State vs. McKnight (131 N. C. 717) are not entitled to be considered authorities in this jurisdiction, inasmuch as they proceed upon the proposition that in those states it would be unconstitutional for the legislature to limit the right to practice medicine, a doctrine counter to that held in the rest of the Union. There remains but one case, that of State vs. Mylod (20 R. I. 632), a case of a Christian Scientist. The Court pointed out that the defendant not only did attempt to treat disease, but he denied its every existence. In contrast with this last case is People vs. Pierson (176 N. Y. 201). Pierson believed in "Divine healing." His child had catarrhal pneumonia and died. Pierson did not call in a physician, but believed the child could be cured by prayer * * * omitting to furnish 'medical attendance' to the child. Judge Haight concludes that the medical attendance required by the provision of the Penal Code could be furnished only by a physician duly authorized to practice under the Public Health Law, and the conviction was sustained.
>
> "As opposed to the cases following Smith vs. Lane, the Courts of Massachusetts, Maine, Michigan, Iowa, Missouri, Colorado, Nebraska, Illinois, Ohio, Alabama, Indiana, New Mexico, South Dakota, and Tennessee, refuse to restrict the 'practice of medicine' to the administration of drugs or the use of surgical instruments."

From a study of these cases I must rule that religion is beyond judicial interference so long as one keeps it to himself and does not jeopardize others; but the moment there is an invasion of the rights of the state by some overt act or conduct that tends to affect the safety and future welfare of its people then the civil government may intervene for its own protection and preservation.

The government may enact laws for the regulation and standardization of our conduct and impose punishment for those acts which constitute a violation of such laws; but it must not interfere with opinions on the part of its people unless those people reflect them in acts that affect the social well-being of the state, then government may intervene for its own welfare. Religious belief is no excuse for an unlawful act. No person under the guise of the practice of the principles and tenets of any church may violate the law of the land (U. S. vs. Reynolds, 98 U. S. 145; Dent vs. West Virginia (supra).

The Reynolds case (supra) seems to settle the law in this respect. There an indictment was found against Reynolds charging him with bigamy under the revised statute of the Territory of Utah.

Among his other assignments of error on review before the United States Supreme Court, the defendant urged that he should be acquitted, even if he did marry the second time, because he believed it to be his religious duty.

Mr. Chief Justice Waite, delivered the opinion of the Court and in discussing the defense of religious belief or duty, said at page 161:

> "On the trial, the plaintiff in error, the accused, proved that at the time of his alleged second marriage he was, and for many years before had been a member of the Church of Jesus Christ of Latter-Day Saints, commonly called the Mormon Church, and a believer in its doctrine; that it was an accepted doctrine of that church 'that it was the duty of male members of said church, circumstances, permitting, to practice polygamy; * * * that the practice of polygamy was directly enjoined upon the male members thereof by the Almighty God, in a revelation to Joseph Smith, the founder and prophet of said church; that the failing or refusing to practice polygamy by such male members of said church, when circumstances would admit, would be punished and that the penalty for such failure and refusal would be damnation in the life to come.'"

After a lucid discussion on the meaning of "religion" and a review of the extent of religious freedom which has been guaranteed, the Chief Justice further said, at page 166:

> "Laws are made for the government of actions and while they cannot interfere with mere religious belief and opinions, they may with practices. Suppose one believed that human sacrifices were a necessary part of religious worship, would it be seriously contended, that the civil government under which he lived, could not interfere to prevent a sacrifice? Or if a wife religiously believed it was her duty to burn herself upon the funeral pile of her dead husband, would it be beyond the power of the civil government to prevent her carrying her belief into practice?
>
> "So here as a law of the organization of society under the exclusive dominion of the United States, it is provided that plural marriages shall not be allowed. Can a man excuse his practices to the contrary because of his religious belief? To permit this would be to make the professed doctrines of religious belief superior to the law of the land, and in effect to permit every citizen to become a law unto himself. Government could exist only in name under such circumstances. * * * The only defense of the accused in this case is his belief that the law ought not to have been enacted. It matters not that his belief was a part of his professed religion; it was still belief, and belief only."

John C. Calhoun in his "Individual Liberty" speech delivered in 1848, said in part:

"The safety and well-being of society are as paramount to individual liberty as the safety and well-being of the race are to that of individuals; and, in the same proportion, the power necessary for the safety of society is paramount to individual liberty."

The trend of these decisions seems to define clearly the line of demarcation between free religious worship and unlawful practice of medicine under the guise of a religion. A thorough and prolonged search of all decisions in point rendered in the courts of our states, fails to reveal that religion or its practice has ever been construed to be a business. (See also Matter of Bandel vs. Board of Health, 193 N. Y. 133).

The Public Health Law, as its very title indicates, is a legislative expression and enactment for the preservation of the health and safety of the people in this state and unequivocally prescribes the qualifications of those who seek the privilege or franchise. Its violation is made a misdemeanor and is punishable by fine or imprisonment.

The Christian Scientist has the right to believe that he can heal by prayer; but I am of the opinion that if he carries and puts that belief into practice for hire and solicits patients by advertisement, then he exceeds his rights as an individual under the law and comes directly

within the prohibition contained in Article III of the Constitution of the State of New York. He must subordinate his beliefs as the rights of the community and of the state as an entity when the free exercise of such belief either impairs and endangers the health of the people or tends to place their health in jeopardy so that the safety of the state will be affected.

So far as this record is concerned, I may infer that the ailments of which the complainant's witness testified, actually existed and were not feigned.

Certainly the continuance of a practice or profession to heal as defendant claims can be done in this case, ought to be the subject of judicial review of our higher and appellate courts.

The duty of a magistrate is to inquire whether there exists probable cause to believe that a defendant is guilty of a crime, and where the proof makes out a case, it is imperative upon a city magistrate to issue a warrant and hold the defendant to answer at the trial.

Let a warrant be issued on proper papers including the transcript of the testimony adduced before me, as part of the information on which this complaint is filed against the defendant and it is ordered that the defendant shall be dealt with according to law.

J. J. F.,
City Magistrate.

Decided February 11, 1911.

BILLS INTRODUCED INTO THE LEGISLATURE.

January 27 to February 21, 1911.

In Assembly.

An Act to amend section 5 of the Public Health Law, by giving the State Department of Health charge of the registration of venereal diseases. By Mr. A. Parker. To Public Health Committee. Printed No. 247. Int. No. 245.

An Act to amend section 80 of the Insanity Law, relative to records of commitments of insane persons. By Mr. Goldberg. To General Laws Committee. Printed No. 259. Int. No. 257.

An Act re-appropriating certain unexpended balances for the State Commission in Lunacy. By Mr. A. E. Smith. To Ways and Means Committee. (Same as S. 134.) Printed No. 267. Int. No. 265.

An Act to amend section 50 of the Insanity Law, relative to wages of certain employees of State Hospitals. By Mr. Manley. To Ways and Means Committee. (Same as S. 183.) Printed No. 271. Int. No. 269.

An Act repealing sections 310 and 311 of the Public Health Law, which requires vaccination of school children. By Mr. Baumes. To Public Health Committee. Printed No. 272. Int. No. 270.

An Act to amend the Public Health Law, by adding a new section, 335, providing that no wall of rooms used for living or working purposes shall be re-papered or re-calcimined until the old paper or calcimine has been removed. By Mr. Wende. To Public Health Committee. Printed No. 278. Int. No. 276.

An Act to amend the Public Health Law, by adding a new section, 318, by requiring that every prescription issued by a physician and to be filled by a druggist shall state concisely whether medicine is for an adult or a child, and if for a child, the latter's age. By Mr. Turley. To Public Health Committee. Printed No. 291. Int. No. 290.

An Act to amend the Insanity Law, by adding thirteen new sections, 110 to 122, inclusive, relative to retirement of employees of the State Hospitals for the Insane. By Mr. Manley. To Ways and Means Committee. (Same as S. 211.) Printed No. 296. Int. No. 295.

An Act to amend section 211 of the Public Health Law, authorizing the Supreme Court to issue an order for registering certain persons as veterinary surgeons. By Mr. McElligott. To Public Health Committee. Printed No. 317. Int. No. 316.

Concurrent Resolution proposing an amendment to section 7 of article 7 of the Constitution, permitting the Legislature to set apart a tract of forest land, or 1,000 acres, for the erection of a State Hospital for tuberculosis patients. By Mr. Goodwin. To Judiciary Committee. Printed No. 338. Int. No. 337.

An Act to establish a milk commission of three members, to be appointed by the Governor, who shall have general supervision of all milk dealers doing business in any city of the first-class and the power to fix the standard of quality and purity of milk and inquire into values and prices, and appropriating $50,000. By Mr. Foley. To Ways and Means Committee. Printed No. 375. Int. No. 366.

An Act to legalize $100,000 bonds issued by the village of Waterloo, Seneca County, for sewers and sewage disposal. By Mr. Cosad. To Villages Committee. Printed No. 381. Int. No. 372.

An Act to amend sections 70 and 71 of the Public Health Law, by authorizing the commissioner of water supply, gas and electricity of New York City to make rules and regulations for protecting from contamination all public supplies of potable waters and their sources. By Mr. A. J. Levy. To Public Health Committee. Printed No. 519. Int. No. 504.

An Act to amend section 1570 of the Greater New York charter, by increasing the number of coroners for the borough of Richmond from one to two, and providing that coroners shall be elected in the same manner as borough presidents. By Mr. Shortt. To Cities Committee. (Same as S. 325.) Printed No. 520. Int. No. 505.

An Act to amend section 232 of the Public Health Law, by adding a new subdivision, 4, providing for the granting by the Board of Pharmacy of a "licensed pharmacist" license to a person who prior to January 1, 1901, was entitled to be registered as a pharmacist. By Mr. Bush. To Public Health Committee. Printed No. 524. Int. No. 509.

An Act to amend section 23 of the Public Health Law, relative to permits for transportation of any corpse which is to be carried for burial over any railroad or upon any passenger steamboat in the State. By Mr. Bush. To Public Health Committee. Printed No. 527. Int. No. 512.

An Act to amend section 224 of the Public Health Law, by adding a new section, 225, providing that every day that a veterinary surgeon practices without a license shall constitute a distinct violation, and providing that judgments for penalties may be enforced by execution against the person. By Mr. Bush. To Public Health Committee. Printed No. 528. Int. No. 513.

An Act to amend Chapter 646, Laws of 1905, by providing for a sewage reduction plant in connection with the sanitary trunk sewer in Westchester County. By Mr. Haines. To Internal Affairs Committee. Printed No. 555. Int. No. 538.

An Act to amend the Judiciary Law, by adding two new sections, 605-a and 736, relative to coroners' jurors in New York and Kings Counties. By Mr. Shlivek. To Judiciary Committee. Printed No. 558. Int. No. 541.

An Act to amend the Greater New York charter, by adding a new section, 905-a, providing that real estate owned by any hospital in New York City exclusively used for hospital purposes shall be exempt from public improvement assessments. By Mr. Gerken. To Cities Committee. Printed No. 580. Int. No. 558.

An Act to amend the Education Law, by adding a new section, 1040, providing for a state school of sanitary science and public health at Cornell University, and appropriating $10,000 therefor. By Mr. Bush. To Ways and Means Committee. Printed No. 599. Int. No. 577.

An Act to amend the Public Health Law, by adding a new article, 18, providing for the establishment of a state institute for the study of malignant diseases at Buffalo, and appropriating $65,000 therefor. By Mr. La Reau. To Ways and Means Committee. (Same as S. 75.) Printed No. 600. Int. No. 579.

An Act to amend the Education Law, by adding six

new sections, 765 to 770, inclusive, conferring upon the State Regents the power to supervise experiments on living animals. By Mr. A. Parker. To Public Health Committee. (Same as S. 397.) Printed No. 603. Int. No. 582.

An Act to amend section 310 of the Public Health Law, by authorizing the admission to public schools, of unvaccinated pupils either upon the certificate of a physician that vaccination will jeopardize the pupil's health or upon a signed statement of a parent or guardian to the effect that such parent or guardian conscientiously opposes vaccination. By Mr. Boylan. To Public Health Committee. Printed No. 611. Int. No. 583.

In Senate.

An Act to amend the Greater New York charter, by adding a new section, 1171-a, authorizing the Department of Health to establish hospital boats or barges during the summer months of each year. By Mr. Cronin. To Cities Committee. (Same as A. 163.) Printed No. 175. Int. No. 171.

An Act to amend section 50 of the Insanity Law, relative to wages of certain employees of state hospitals. By Mr. Ferris. To Finance Committee. (Same as A. 269.) Printed No. 187. Int. No. 183.

An Act to amend the Insanity Law, by adding thirteen new sections, 110 to 122, inclusive, relative to retirement of employees of the State Hospitals for the Insane. By Mr. Ferris. To Finance Committee. (Same as A. 295.) Printed No. 215. Int. No. 211.

An Act to amend sections 230 and 231 of the Town Law, relative to establishment and maintenance of sewer systems outside of incorporated cities and villages. By Mr. O'Brien. To Internal Affairs Committee. (Same as A. 211 and S. 125.) Printed No. 231. Int. No. 226.

An Act to amend section 231 of the Public Health Law, by providing that the secretary of the State Board of Pharmacy shall be appointed by the Governor instead of the Regents, for a term of three years, and striking out the provision that an examiner shall have legally practiced as a licensed pharmacist at least ten years. By Mr. Pollock. To Public Health Committee. Printed No. 255. Int. No. 249.

An Act to amend the Public Health Law, by adding nine new sections, 335 to 339-d, inclusive, providing that all cold storage foods shall be marked with the date when same was received for storage and relating to the sale and disposition of cold storage food. By Mr. Frawley. To Public Health Committee. Printed No. 286. Int. No. 279.

An Act creating a commission of seven members, to be appointed by the Governor, to inquire into the extent and nature of the practice of experimentation on living animals. By Mr. Bayne. To Judiciary Committee. Printed No. 317. Int. No. 310.

An Act to amend section 1570 of the Greater New York charter, by increasing the number of coroners for the borough of Richmond from one to two, and providing that coroners shall be elected in the same manner as borough presidents. By Mr. Bayne. To Cities Committee. (Same as A. 505.) Printed No. 335. Int. No. 325.

An Act to amend section 224 of the Public Health Law, and adding a new section, 225, providing that every day that a veterinary surgeon practices without a license shall constitute a distinct violation, and providing that judgment for penalties may be enforced by execution against the person. By Mr. Murtaugh. To Public Health Committee. (Same as A. 513.) Printed No. 361. Int. No. 349.

An Act to amend section 136 of the State Charities Law, by providing that no patient shall be received in the New York State Hospital for the Care of Crippled and Deformed Children except on application of a county superintendent of the poor or a commissioner of charities in any county or city. By Mr. T. D. Sullivan. To Judiciary Committee. Printed No. 397. Int. No. 378.

An Act to amend the Public Health Law, by adding a new section, 318, making it unlawful to sell at retail or furnish to any person other than a duly licensed physician, dentist, or veterinary, a hypodermic syringe or needle without the written order of such physician or veterinary. By Mr. McManus. To Public Health Committee. Printed No. 400. Int. No. 381.

An Act to amend the Education Law, by adding six new sections, 765 to 770, inclusive, conferring upon the State Regents the power to supervise experiments on living animals. By Mr. Pollock. To Judiciary Committee. (Same as A. 582.) Printed No. 415. Int. No. 397.

BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

Plastic and Cosmetic Surgery. By Frederick Strange Kolle, M.D., Fellow of New York Academy of Medicine; Member of Deutsche Medezinische Gesellschaft, New York; Kings County Hospital Alumni Society, Authors' Committee American Health League, Physicians' Legislature League, etc.; Author of "The X-Rays; Their Production and Application," "Medico-Surgical Radiography," "Subcutaneous Hydrocarbon Protheses," etc. With one colored plate and 522 illustrations in text. D. Appleton & Company. New York and London. 1911. Price, $5.00 in cloth and $6.00 in half leather.

Modern Treatment. The Management of Disease with Medicinal and Non-Medicinal Remedies in contributions by American and Foreign Authorities. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia. Physician to the Jefferson College Hospital. Assisted by H. R. M. Landis, M.D., Director of the Clinical Department of the Phipps Institute (University of Pennsylvania); Visiting Physician to the White Haven Sanatorium. In two volumes. Volume II. Illustrated. Lea & Febiger. Philadelphia and New York. Price per volume in cloth, $6.00 net; half morocco, $7.50 net.

Howard Taylor Ricketts, Y Sus Trabajos Sobre El Tabardillo (Tifo De Mexico) Publicado por la Secretaria de Instruccion Publica y Bellas Artes en complimiento del acuerdo relativo del Presidente de la Republica. Mexico. Tip. De Le Vda. De F. Dias De Leon, Sucs. Avenida del Cinco de Mayo y Motolinia. 1910.

Twenty-Sixth Annual Report of the State Board of Health of the State of Rhode Island for the Year ending December 31, 1903, and Including the Reports upon the Registration of Births, Marriages and Deaths in 1902.

Introduction to Practical Organic Chemistry, including Qualitative and Quantitative Analysis and Preparations, with a Special Appendix on the London University Syllabus, and Schemes of Analysis for Stages 1 and 2 of the Board of Education Syllabus. By A. M. Kellas, B.Sc (London), Ph.D. (Heidelberg) Lecturer on Chemistry at the Middlesex Hospital Medical School; formerly Examiner in Chemistry to the Conjoint Board of the Royal Colleges of Physicians and Surgeons. London. Henry Frowde. Oxford University Press. Hodder & Stoughton, Warwick Square, E. C. 1910. Price, $1.35.

A Text-Book of Massage. By L. L. Despard. Member and Examiner Incorporated Society of Trained Nurses. London. Henry Frowde, Oxford University Press. Hodder & Stoughton. Warwick Square, E. C. 1911. Price, $4.00.

Handbook of the Surgery of the Kidneys. By W.

Bruce Clarke, M.A., M.B. (Oxon.), F.R.C.S. Senior Surgeon to St. Bartholomew's Hospital; formerly Surgeon to the West London Hospital, and to St. Peter's Hospital for Stone and other diseases of the Urinary Tract; Member of the Council and of the Court of Examiners of the Royal College of Surgeons of England; formerly Examiner in Surgery to the University of Oxford. With 5 plates and 50 illustrations in the text. Henry Frowde, Oxford University Press. Hodder & Stoughton, Warwick Square, E. C. 1911. Price, $4.00.

BOOK REVIEWS.

The Modern View of Syphilis and Its Treatment. By Gustav Baar, M.D. (Vienna). Member German Congress for Internal Medicine; Member of the American Medical Association, etc. D. Appleton & Company, London and New York.

This treatise on syphilis is evidently written by an internest, which makes the work of great value to the general practitioner, because here they can read the experience of one of themselves and not the opinions of a specialist in syphilis.

The author infers in the preface, that the difficulty of making a diagnosis in an obscure cerebral condition, prompted him to study more deeply into the subject of syphilis, not as seen by the syphilographer, but as it presents itself to the general practitioner and the surgeon.

The work is divided into three parts. Part one treats of the bacteriology of syphilis and the diagnostic and therapeutic value of the Wassermann test.

These important subjects, indicative of the rapid advances that have been made in the diagnosis and treatment of syphilis, in the last ten years, are so clearly explained that any one who has not had the time to keep up with the literature, can get in a few pages the whole gist of the matter.

Part two deals with the special pathology, symptomatology and differential diagnosis, and is subdivided into twelve chapters each devoted to the consideration of syphilis of some special organ or part, the introductions to each chapter are well and clearly written and shows that the author has a complete mastery of the subject.

It is unfortunate that so much material has been condensed into such a small space, the reviewer thinks the value of the work would have been greatly enhanced if the author had elaborated more fully, and had not sacrificed so much space to the recital of cases; in many instances the point could have been made with one case as well as more.

Part three is devoted to the therapy of syphilis, here again the attempt is made to cover too much ground in a limited space, although the modern methods of treating syphilis is fairly well gone into.

Appended to the text is a bibliography, from which one can get a more complete exposition of the subject.

This little volume of Dr. Baar is of special value because its mission is to impress upon the minds of the physician and surgeon the fact that syphilis is so often the unrecognized foundation of many obscure disorders; it is also valuable, for it gives in a few pages the rapid advances our knowledge is making in diagnosing and treating this common and often unrecognized disease. J. M. Winfield.

A Hand-Book of Practical Treatment. In three volumes. By 79 eminent specialists. Edited by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania; and A. O. J. Kelly, M.D., Assistant Professor of Medicine, University of Pennsylvania. Volume I: Octavo of 909 pages, illustrated. W. B. Saunders Company. Philadelphia and London. 1911. Per volume: Cloth, $6.00 net; half morocco, $7.50 net.

The first volume of this rather novel series of textbooks gives promise of a most complete exposition of modern therapeutic procedures. Undoubtedly much contained in such a work could upon diligent search be found in any well equipped library. For the busy practitioner, however, often in immediate need of authoritative information as to modes of procedure, such a work must be found of great value.

The balancing of such a series of articles dealing with a wide range of subjects is a matter of considerable difficulty, but the distinguished editors have done their work most admirably. Some doubt might be expressed as to the wisdom of permitting certain rather full theoretic discussions such as is found in the chapter on serum therapy.

One of the most striking chapters in the volume, not alone because of the choice and abundance of the illustrations, but more because of the clearness with which the important subject is handled, is the one dealing with Exercise, Massage and Mechanica-Therapy. This eminently practical article goes far in itself toward making the possession of the volume worth while. Among the number of excellent contributions mentioned should be made of one by Lauder Brunton on "Drug Therapy." It is in his usual style, full of suggestiveness and of every-day practicallity. Dudley Roberts.

Lippincott's New Medical Dictionary. A vocabulary of the terms used in Medicine and the Allied Sciences with their pronunciation, etymology, and signification, including much collateral information of a descriptive and encyclopædic character. By Henry W. Cattell, A.M. (Laf.), M.D. (U. of P.), Editor of *International Clinics,* Fellow of the College of Physicians of Philadelphia, etc. Freely illustrated with figures in the text. Philadelphia and London. J. B. Lippincott Company.

This valuable addition to the list of dictionaries of medicine aims to furnish the medical student with all knowledge suitable for a dictionary revised to the year 1910. The system of cross references used is most valuable and contains much matter not found in other dictionaries.

The effort to illustrate by drawings a few of the prominent men in medicine does not add much of value. No one denies that Madame Curie is entitled to great credit with her husband for the work on radium, but why should she be pictured, and also von Leyden, a scientist, and a most worthy one at that, and some of the most important men who have given names to diseases and operations be omitted. It is hard to understand why Charcot and Sir Astley Cooper should not be found among the photographs when one finds the picture of Dupuytren and Benjamin Rush, both worthy representatives, however. In short, it would seem better to either make a fairly complete list or omit entirely the few that have been put in.

The same criticism applies to the illustrations of operative surgery. Some of the best are pictured and some equally good are omitted. Why a large amount of space should be given to a picture of a number of strands of silk is beyond comprehension when other subjects are not illustrated. A picture of a mortar and pestle is given, but we find no picture of a spatula and other important parts of the druggist's armamentarium. The use of capitals in words that are generally capitalized is excellent, but phonetic and simplified spelling would hardly seem advisable at the present time in medicine.

These are minor faults, however, and will no doubt be corrected in future editions. W. R. T.

Manual of Obstetrics. By A. F. A. King, A.M., M.D., LL.D., Professor of Obstetrics in the Medical Department of the George Washington University, Washington, D. C., and in the University of Vermont, etc. Eleventh edition, revised and enlarged, with 341 illustrations in text and three plates. Lea & Febiger, Philadelphia and New York. 1910.

Every edition of this little manual has been an improvement on its predecessor. In the present revision,

Dr. King has brought the work abreast of the times by incorporating in it the accepted foreign and American obstetric teaching.

The entire book has been practically rewritten, and there has been added chapters on Pubiotomy, Spontaneous Version by Posture, and a lucid description of thigh pressure upon the abdomen, as a fatcor and an auxillary force to labor.

His chapters on Presentation, Position and the Mechanism of Labor, are clearly set forth, and the illustrations descriptive of Mechanism and Management, give the student as well as the practitioner an insight into the detailed steps of mechanism, such as is given in few of present day text-books of greater bulk.

The large experience of Dr. King, his excellent judgment, and his ability to classify the data at hand, and give it to the student concisely and consecutively, makes this manual one of the most vlauable of obstetric contributions of the year.

The illustrations, while not elaborate, are numerous and well selected, and serve their purpose to elucidate the text in a manner which even the Tyro can understand.

Such a book cannot fail to continue as a favorite with the student and practitioner. J. O. P.

Hookworm Disease. Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis, and Treatment. By George Dock, A.M., M.D., Professor of the Theory and Practice of Medicine, Medical Department, Tulane University of Louisiana, New Orleans, and Charles C. Bass, M.D., Instructor of Clinical Microscopy and Clinical Medicine, Medical Department, Tulane University of Louisiana, New Orleans. 250 pages, royal octavo. Fifty illustrations, including one colored plate. Price, $2.50. C. V. Mosby Company, St. Louis.

The astonishing revelations which Ashford, King, and others have made in recent years regarding the prevalence of hookworm disease have created an obvious need for a book which would present in compact and accessible form the medical aspects of this important subject. The authors of "Hookworm Disease" have succeeded admirably in preparing such a work. All the important phases of the subject, including zoology, modes of infection, pathological anatomy, symptoms, diagnosis, treatment, and prophylaxis, are presented with sufficient detail to furnish the reader with all the essential knowledge of the subject. The work is not too technical to be beyond the reach of the lay reader and we think the book well deserves a large circulation with the general public, especially in the districts afflicted with the disease. Numerous excellent illustrations tell an impressive tale which even the average person could not fail to grasp. At the same time the subject matter adequately covers the field so as to meet the wants of the physician. A full subject matter and authors index accompanies the work. Only the literature fails to receive due notice. The familiar heavily-calendered American paper carries well the illustrations and a rather poor colored plate, and doubles the necessary weight without justifying the exaggerated price of the volume. J. E.

A Manual of Toxicology. A concise presentation of the principal facts relating to poisons, with detailed directions for the treatment of poisoning. Also a table of doses of the principal and many new remedies. Seventh edition, revised and profusely illustrated by Albert H. Brundage, A.M., M.D., Phar.D., M.G., Professor of Toxicology and Physiology in the Medical Department of Marquette University. Henry Harrison Co. Brooklyn. 428 pages, $2.00 net.

This little manual has passed through seven editions in nine years. This in itself speaks well of the favor with which it has been received at the hands of teachers and students.

It is especially designed as a concise manual on poisons and poisoning for students, physicians, pharmacists, lawyers, coroners and ambulance surgeons. It is a concise and yet full enough to serve as a reliable guide to the history, symptoms and treatment of all known poisons, including auto-intoxications. It is difficult to see how the author could get more information in its 428 pages than he has done. This fact, together with an admirable index, makes it a very handy and valuable book of reference. The first 262 pages are taken up with a description of the various poisons, the symptoms given by them, and their treatment. This is followed by a chapter on brief Identification Tests for Poisons, chapters on the Signs of Death, Sudden Deaths, Pharmacological Toxicology, A Guide to Post-Mortem Procedure, Post-Mortem Appearances in Poisoning Cases, Chronic Poisoning and Drug Habits. The appendix contains a very full table of minimum and maximum doses of medicines and poisons. The book seems to be reliable and up to date and can, therefore, be recommended without reserve. E. H. B.

OBITUARY.

Horace Wilbur Patterson, M.D.

Dr. Patterson died at the S. R. Smith Infirmary, on February 5th, at the age of 38.

He entered Harvard as a member of the Class of 1893. In 1895, he was graduated from the College of Physicians and Surgeons of Columbia University, and then spent one year in the Newark City Hospital.

For five years he was secretary of the Richmond County Medical Society. He was chief of the department of communicable diseases of the Department of Health, of Richmond Borough, and also pathologist of the S. R. Smith Infirmary.

Dr. Patterson entered the Spanish-American war as assistant-surgeon in the First Regiment, New Jersey Volunteer Infantry. He was, at the time of his death, a captain, and assistant-surgeon in that regiment besides being first lieutenant in the Medical Reserve Corps, U. S. A.

Dr. Patterson was a popular and able physician, and his loss will be keenly felt by all who knew him.

DEATHS.

John W. Bickford, M.D., Lockport, died January 31, 1911.

Daniel Maynard Burgess, M.D., New York City, died February 28, 1911.

Eugene P. Hickok, M.D., Brooklyn, died January, 1911.

Edward G. Janeway, M.D., New York City, died February 10, 1911.

Horace W. Patterson, M.D., New Brighton, died February 5, 1911.

Frank G. Sherwood, M.D., Albion, died January 27, 1911.

Joshua J. Sweet, M.D., Unadilla, died January 13, 1911.

T. Markley Trego, M.D., Albany, died February 15, 1911.

James Y. Tuthill, M.D., Brooklyn, died February 16, 1911.

C. B. Vaughan, M.D., Morrisonville, died February 1, 1911.

NEW YORK STATE JOURNAL OF MEDICINE

A Journal Devoted to the Interests of the Medical Society of the State of New York

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EDITORIAL DEPARTMENT

THE COMMON COLD.

A COLD in the head has from time immemorial been a subject of jesting. Even the comic poets have not neglected the subject and *Punch* and kindred journals have not failed to depict the unfortunate victim with his feet in a tub of hot water, an expression of comical misery on his face, and a mitigating glass of something hot—Scotch perhaps, in his hand. But a common cold is far from being a jest. Since the invasion of this country, twenty-five years ago by the influenza bacillus, it is often a very serious affliction. It may be the beginning of a broncho-pneumonia. Middle ear trouble, mastoiditis, empyema of the maxillary antrum, suppurative processes in the accessory sinuses all have their origin in a common cold. The phrase "catching cold" is not without truth, for a cold is the result of infection by a number of different micro-organisms aided by a lowered resistance which is due to sudden surface chilling. A brilliant but unsound popular writer on medical subjects has stated that exposure to drafts of cold air has nothing whatever to do with "catching cold," but that it is an infection pure and simple. There are, however, aside from the personal experience of every medical man, biological facts which substantiate the belief that sudden chilling of the surface is certainly a contributing factor. Thus chickens are immune to anthrax, but if chilled by cold water they lose their immunity and become susceptible. Environment always plays its part in the loss of immunity, which precedes many diseases. At the same time we must recognize that the prime factor in the disease is infection. Arctic voyagers on returning from their year or more in the sterile regions of the north, invariably come down with a severe coryza on their return to civilization. Who has not noticed the autumnal colds which we are prone to contract on our return from the mountains and the seashore? Like the travelers from the Arctic, we succumb to the infection in our change from an uninfected to an infected zone. This element of infection has been too little regarded by the profession and not even thought of by the laity. A pupil with a cold in the head is as much a subject of temporary quarantine as a case of chicken-pox. The sequelæ of acute coryza far exceed in number and fatalities the sequelæ of varicella, yet no one thinks of secluding the child with a cold. In the family circle sneezing and coughing are indulged in without restraint until all the members of the family group have contracted the contagion. "We have all been down with influenza," is a common greeting.

In face of all these facts, the medical profession has never explicitly taught that colds are distinctly and primarily infectious and that they are transmitted from infected to healthy individuals by the spray of the open sneeze and open cough. So far as the writer knows, it has never been suggested that children with colds are proper subjects for quarantine. No one has ever suggested that there is more danger in an open

sneeze or cough than in expectoration. Our boards of health have recognized the danger of promiscuous spitting, and most municipalities have passed ordinances against a filthy and unsanitary practice. We cannot, from the legislative standpoint, of course, draw a parallel between the open cough and sneeze and spitting, because spitting is a voluntary act, whereas coughing and sneezing are largely involuntary and therefore not under the control of the will, and not to be penalized. The medical profession can, however, enlighten the public on the real danger of the common cold and instruct them to abandon the open sneeze for the sneeze into the handkerchief. This would, to a great extent prevent the spraying of the surrounding air with millions of germs to infect healthy individuals. When one thinks of it, a sneeze or a cough is far more potent in spreading the organisms of the respiratory tract than is spitting. It is necessary for sputum to dry before it can communicate contagion, and by that time the influences of light and oxidation have done much to deprive it of its contagious properties. Who would think of going into a room which was being sprayed through an atomizer with a mixed culture of the bacillus of influenza, the pneumococcus, the micrococcus catarrhalis and various pus organisms? Not the most hardened bacteriologist would willingly submit to such a test of his index of humanity. Yet this is exactly what happens to the bystander when an individual with a cold sneezes. No one thinks of contagion, but every one goes home and by and by announces that "he has caught cold." Evidently there is room for education here, not only among the people, but more particularly among the profession. We ought to recognize first that the sequelæ of the common cold are most serious, and that they are of frequent occurrence. These sequelæ are broncho-pneumonia, lobar pneumonia, middle ear disease with its attendant mastoid complication, sinus infections. Second, that a common cold is sufficient reason for exclusion from school or public assemblies; third, that the open sneeze and cough are not only bad manners but bad hygiene and dangerous to others. We used to laugh at the mosquito as a nuisance. We now recognize the insect as a peril. We still joke about a cold in the head. It is time that we recognized it also as a peril.

THE APRIL MEETING.

FOR the first time in its existence of more than a hundred years the Medical Society of the State of New York has seen fit to change the time of its annual meeting. That a mid-winter meeting should have proved successful held frequently in most inclement weather and when the hotels of Albany were crowded, is a tribute to the usefulness of the society and the fidelity of the profession to its ideals. But as time has passed since the unification of the profession and the change in the organization of the society, it has been evident that the attendance at the annual meetings has not kept pace with the increase in membership. In fact, with a total membership of over 6,500, the attendance at Albany in January has been practically the same as it was under the system of delegates and permanent members when the total membership was one-tenth as great as it is at present.

The change has not been made precipitately nor without much discussion. The more radical suggestion that the place of meeting be moved about the state was rejected by the House of Delegates last year which seemed wise. One change at a time.

The third week in April ought to see propitious skies and pleasant weather in Albany. The rush of winter work is by that time over and many of our members are ready for a day or two of rest and change, and can then afford to take time away from the practice of medicine which they have not been able to spare earlier in the season.

These meetings ought to be largely attended. There are many pressing questions of public policy, as well as questions which relate exclusively to the medical profession which need our earnest consideration.

The resolutions emanating from Erie County Society, relative to the practice of fee-splitting, deserve attention. This is an evil which is rapidly attracting most unfavorable comment. The report of the Erie County committee was used against us in a recent hearing before the Senate Committee in the matter of the anti-vivisection bills. It has been published as a pamphlet by an anti-vivisection society with caustic comments in red ink on the margin of the pages. It is something with which we shall have to deal if we are to maintain the respect of the public. The questions of lodge practice, fraternal and industrial insurance associations with twenty-five cent fees for an hour's work, all require our earnest attention. We cannot raise the standard of the profession at its beginning by consenting to starvation prices for our work all the rest of the way. The state society must deal with these problems. They are of as much importance to our welfare and prosperity and our public usefulness as the discussion of any scientific program. Every member of the state society is interested in these questions, from Buffalo to Montauk Point. Attend the meetings of your state society and help us to solve them.

Original Articles

WHEN SHALL WE OPERATE IN PUERPERAL SEPTIC INFECTION?*

By JOHN OSBORN POLAK, M.Sc., M.D.,
BROOKLYN, NEW YORK

IT is nearly three years since a paper on puerperal septic infection has been presented before the academy. During this time we have had ample opportunity to obtain a better knowledge of the pathology, as well as a better appreciation of the indications for treatment. Furthermore, we have come to understand, that sepsis is not measured by its mortality, but by its morbidity.

My own observations in over a thousand cases of septic infections following labor and abortion, convince me that this morbidity is largely due to the tendency of practitioners to interfere with the endometrium by surgical methods. In my last hundred cases, sixty-seven patients had been subjected to one or more curettings before admission to the hospital. I have likewise been impressed with the difference in the mortality and morbidity of those patients who entered the hospital before any surgical treatment had been instituted on the outside, and in those who had been subjected to a curettage, or some other form of intrauterine manipulation before their admission.

In the former parametritic and peritoneal complications were seldom noted, while in the latter (eighty-one in all, sixty-seven of whom had been curetted one or more times), peritonitic or parametritic exudates were present, or developed shortly after admission, in seventy-nine of the women observed. This but emphasizes a fact known to us all, *i. e., that any intrapelvic or intrauterine manipulation made during the acute stage of a puerperal or postabortal sepsis always breaks down and disturbs nature's protective barrier and permits of the dissemination of the infection through freshly abraded or penetrated surfaces.*

We have learned from experience, that the endometrium should never be curetted in streptococcus infection, as the majority of these patients recover spontaneously through a protective layer of leucocytes in the decidual lining of the uterus, the germs being cast off with the necrosis and expulsion of the decidua, if firm uterine contraction is maintained with ergot.

The curet here is distinctly meddlesome. It breaks down the protective wall, and allows the streptococci to penetrate the musculature and reach the peritoneum and parametrium. The danger is increased as the period of pregnancy advances.

Digital curettage, however, is permitted in putrefaction of the decidual and placental remains, with resulting sapremia. Saprophytes can exist only on dead tissue. The placental site should never be curetted, hence we limit instrumental evacuation to pregnancy of eight weeks or under.

Micro-organisms cause peurperal septic infection and the patient recovers because she is able either with or without, or in spite of her attendants' treatment to overcome and destroy the infecting agent. The human organism overcomes the bacteria and their toxins; first, by means of certain substances in the serum of the blood that kill the bacteria directly, known as bactericidal substances; second, by the presence in the blood serum of opsonins, which combine with the bacteria and so alter them, that the phagocyte can destroy them, and finally, by the elaboration in the blood stream of antitoxins that combine with and neutralize the toxins. We have learned from laboratory and clinical observation, that the streptococcus, staphylococcus and gonococcus are but slightly if at all affected in their activity or virulence by the bactericidal substances, but are readily opsonized and ingested by the phagocytes. Hence it is to the development of a real or artificial phagocytosis that we must direct our efforts if we are to aid nature in her resistance to septic invasion.

Unfortunately, the blood resistance of the puerperal patient is poor. In many instances her blood is hydremic, as I have noted in a study of the blood picture in a series of parturient women, where the examination was made at the close of labor, the hemoglobin percentage averaging but sixty, and the red cell count less than 3,000,000. Thrombo-phlebitis of the femoral has frequently occurred in these anemic women.

The toxins of all pathogenic bacteria, which we find in sepsis, are neutralized by antitoxin substances. The bacillus coli is killed by bactericidal substances and opsonized, while the streptococcus, staphylococcus and gonococcus, are readily opsonized. It will be seen, therefore, that it is in single infections of low virulence that most can be expected from vaccines.

When a patient is overcoming an infection the protective substances in the blood are in excess of the normal, and the phagocytes are increased, unless the resistant power of the blood is entirely overwhelmed by the virulence of the bacteria, or the violence of the attack. While the blood stream is summoning and preparing its defense, local tissue changes have been going on. We know that the entire contents of the uterus, blood clots, decidua and portions of the placental tissue may become the feeding ground for the development of saprophytes, together with cocci introduced from below. The placental site is the area of least resistance, hence the frequency of phlebitic and thrombotic extensions. The cervix is also a traumatized and devitalized

* Read before Section on Obstetrics and Gynecology, New York Academy of Medicine, November 26, 1910, and by invitation before the Buffalo Academy of Medicine, December 29, 1910.

structure which offers no resistance to infective attack. In the body of the uterus, however, the natural protection to the infected focus is the formation of the granulating wall of leucocytes, or the "leucocytic wall of Bumm," associated with a small tissue cell infiltration, which protects the organ against the attacking organism. This local defense, the wall of Bumm, is more definite the lower and less virulent the type of infecting organism, and not so definitely defined when the organism is actively virulent, it may be absent when the streptococcus is of hemolytic activity. Such a coccus may enter the tissues of the placental site within a few minutes after its implantation, and can be found in the blood stream within a few hours. No amount of local treatment, whether it be intrauterine instrumentation, douching or complete hysterectomy, can catch germs of such activity. Such an infection promptly overcomes the resistance of the blood stream by its suddenness and virulence.

Aside from infected lacerations, abrasions and ulcers about the vulvo-vaginal orifice, the vagina and cervix which represent simple suppurating wounds, which tend to heal by granulation, infection takes the form of putrid or septic endometritis, the primary focus of all postpartal or postabortal sepsis being found within the uterus.

A putrid endometritis may extend into the muscle and produce a septic metritis or an intramural abscess, or extend from the placental site along the veins and produce a thrombophlebitis, with local or remote foci, or a bacteremia, or through the lymphatics to the parametrium, infecting the cellular tissues within the folds of the broad ligaments, with resulting intracellular abscess or exudates of varying size, which may distend, shorten or thicken the ligament to such an extent as to produce marked lateral displacement of the uterus, or the cocci may travel through the lymphatics to the peritoneum, exciting a local or general peritoneal inflammation, depending on the virulence of the infector and the resistant receptitivity of the soil into which it is introduced.

As long as the phagocytes and antitoxins are able to overcome the infecting organism by exudative limitation and localized suppuration, *just so long is the process limited and amenable to surgical* aid; when, however, the natural protection of the human organism has been impaired by hemorrhage, trauma, exhaustion, previous ill health, or the virulence of the infecting cocci is increased, there is a general dissemination of toxins throughout the body and bacteremia supervenes, or when the blood is the carrier of infected material to distant parts of the body, and remote foci develop, it is pyemia.

Since presenting this subject before the American Gynecological Society, in May, 1910, it has been my fortune to follow fifty-six additional cases. This report, therefore, is based upon the study of 256 patients suffering from postpartal to postabortal septic infection. The total mortality of the series was seven, or less than 3 per cent. It should be noted that two of these patients were in extremis at the time of admission, one dying on the operating table after extirpating a lacerated and septic uterus, the other succumbing to a virulent bacteremia, after being in the hospital but fourteen hours. Should we deduct these from our mortality list, the percentage of deaths would be less than 2 per cent.

It has been our custom to treat each patient according to the clinical and bacteriological diagnosis. On admission to the hospital each patient is subjected to the following examination: The pulse and temperature are taken and observation is made of the condition of the tongue, the heart, the lungs, the distension of the abdomen, its tension, the height and condition of the uterus, and note made of any point or points of localized tenderness, or intra-abdominal exudate, and a complete blood count and blood culture is made.

The vulva and vagina are then thoroughly cleansed and inspected for injury or local infection. The bladder is emptied and a careful pelvic examination is proceeded with, in order to determine the condition of the cervix, the degree of its patulousness, the height, contraction and retraction of the uterus, the mobility of the uterus, the condition of the parametrium, and finally, we make a digital exploration of the interior of the uterus, to ascertain its contents.

It is needless to say, that a well contracted uterus with a closed cervix is not entered. This examination is performed under the strictest asepsis, the intrauterine exploration made with the gloved hand. If placental tissue, secundines or blood clots are found within the uterus, they are removed with the finger or the Ward placental forceps. The uterine cavity is then firmly packed with sterile gauze, which has been soaked in pure tincture of iodine, the excess of iodine having been squeezed out before tamponading the uterus. The burning about the cervix and vagina is neutralized and controlled by alcohol. The pack is left in the uterus for thirty minutes, when it is withdrawn, and no further uterine instrumentation or medication is resorted to.

If on the other hand, the cervix is open and the body of the uterus is found to be empty and well contracted (as is often the case within the first three or four days after labor), and the endometrium smooth, the digital exploration is followed by a single intrauterine douche of normal salt solution. The patient is then put in a high Fowler position, (for it is well known that bacteria live in the lochia, and postural drainage diminishes their absorption), and an ice bag, or ice bags, placed directly over the uterus, and held in place by the abdominal binder. Ergot or ergotole are freely given to maintain firm contraction and retraction. This minimizes further

bacterial invasion through a relaxed organ, as well as maintaining natural drainage. Cathartics are avoided and the bowels emptied by repeated enemata. The abdominal distention is controlled by lavage, enemata and the restriction of diet. The kidney secretion is maintained by the Murphy drip. The result of a blood examination and a blood culture now determine our further procedure.

If the blood stream is sterile and the leucocytes show resistance to the infection by their relative increase, the prognosis is favorable. It matters not what form of cocci are found within the uterine cavity, the form of bacteria within the uterus, however, helps us to determine whether any intrauterine treatment should be carried out. If on the other hand, streptococci are demonstrated in the blood, and the leucocyte count low with the polynuclear percentage high, a marked general intoxication is indicated, and the phagocytes must be markedly increased or the cocci opsonized in order that recovery may take place.

A low white cell count in the presence of marked general symptoms shows a virulent or violent infection, and suggests a bad prognosis. Eleven women in whom we demonstrated pure streptococci in the blood, were subjected to vaccine treatment in addition to carrying out the routine described above. It was noted that in five instances, though the general symptoms were very severe, a negative culture was returned on the first examination, and positive streptococci not found until some subsidence in the clinical symptoms had taken place. The writer has been impressed by the relatively large number of sterile blood cultures in this series, even when the clinical picture was very severe, it being often, not until late in the course of the disease that a coccus could be isolated in the blood. I believe this to be due to the relatively small percentage of intrauterine manipulations, and is at variance with the findings in a previous series, when a more active treatment was employed.

This clinical improvement was always associated with a demonstrable phagocyte resistance. Autogenous vaccines were used in all of these patients, the dose varying from 50 to 500,000,000. In all but one a prompt reaction was noted. The competence of nature in combatting the infection was shown clinically by the fact, that the temperature dropped and the pulse began to improve as soon as the local peritonitic or parametric exudate developed. The blood picture corresponded to this clinical evidence.

In the patients in which no local exudative process developed, vaccines seemed to have less effect. A brief summary of the class of cases serving as the basis of this report will give some conception of the types under discussion.

Sapremia or putrid endometritis uncomplicated by parametric or peritonitic lesions was recorded sixty-seven times. The local symptoms determined the necessity for intervention. When the lochia was profuse, dark and fetid, and the cervix was open, the uterine cavity was digitally explored and its contents emptied with the finger or forceps, and the uterus packed with iodine soaked gauze. No further local treatment was ever employed. Postural drainage was insisted upon by the employment of the high Fowler position and liberal doses or ergot given and continued throughout the convalescence. All of the patients in this class recovered.

Seventy-four patients presented intra or extra peritoneal exudates arising from the pelvis. As stated before, sixty-seven of these women had been subjected to one or more curettings before admission to the hospital, consequently we have come to consider exudative peritonitis as a sequel of untreated or badly treated endometritis. A later stage of the infected process, an effort on the part of nature to localize and circumscribe the invader. Eight of these exudates terminated in suppuration, one opening spontaneously through the vagina.

In this series suppuration was a late result, the earliest abscess occurring on the nineteenth day, the latest on the eighty-second. Suppuration was evidenced in each instance, not only clinically by the continued elevation of temperature and pulse, and the increased tenderness, size and tension of the exudative mass, but by the relative increase of the polynuclear percentage and the drop in the leucocyte count.

Three of the cases in which suppuration occurred were opened by extra peritoneal incision above Poupart's ligament. Four were operated by vaginal section, and one ruptured spontaneously into the vagina. Sixty-six completely absorbed, leaving little or no morbidity, under the influence of time, rest and the absorbing influence of dry heat. The small percentage of interference is a result of our experience, which has taught us never to disturb a local focus postpartum, as long as the patient shows improvement, unless there is definite evidence of a localized collection of pus. None of these exudates were baked after the method of Gelhorn until the acute process was in abeyance.

The general condition of the patient bore a direct relation to the rapidity with which the exudate was absorbed. The absorption was tedious when the anemia was marked, rapid when the blood showed much resistance. Open air treatment aided materially in raising the red cell count and hastening the convalescence.

When a patient is admitted with a pelvic or abdominal exudative mass, the extent of the mass is carefully mapped out, and penciled on the abdominal wall, if the tumor rises out of the pelvis, the temperature and pulse are recorded, and a white cell and polynuclear count made. The blood examination is repeated daily, until the symptoms show progression or improvement. No mass suppurated in which the patient's blood

count showed more than 20,000 leucocytes, and a polynuclear count of below 82 per cent. Suppuration manifested itself by increased size, tenderness and tension of the tumor, a rising polynuclear percentage, and continued elevation of temperature. Abdominal pain was a constant attendant. Pus formation was always a late complication. No mortality is recorded in this class.

Pelvic cellulitis or infection of the cellular tissue in the broad ligaments, and in the utero-vesical fold, was noted twenty-eight times. All of these women had extensive cervical lacerations, which opened an avenue for the invasion. The uterus was fixed and displaced in the pelvis by the induration which was present in one or the other broad ligament. The left ligament was the seat of the process nineteen times, while the right ligament was involved but nine. The same care and observation was made in this class of cases as was made in the peritoneal exudate class. In only one of these women did suppuration occur, and this case resulted fatally on the fifty-second day from gastric dilatation. Twenty-four resolved, leaving a shortened and thickened ligament, deflecting the uterus to one or the other side of the pelvis. The convalescence took from four to eight weeks.

Eighteen cases of streptococcus septicemia and ten cases of bacteremia have afforded a most interesting study. The blood culture made the diagnosis positive. The streptococcus was demonstrated in the blood of eighteen women, and a mixed infection was found in the blood of ten. In all, the uterus was empty and well contracted, and a purulent or sanguino-purulent uterine discharge was present. Marked prostration, with temperatures varying from 102 to 106¼ were evident. The pulse was relatively high, 110 to 158. A rapid destruction of red cells, a diminution in the hemoglobin percentage, and very little white cell resistance, was the characteristic blood picture. Two fatalities occurred. One patient died of a septic endocarditis, the other from bacteremia, without evident local lesion. The treatment was supportive, fresh air, a nutritious liquid diet, the copious ingestion of water and saline solution, by hypodermocylsis and enteroclysis, and ascending doses of Zambolettie's solution of the arsenate of iron hypodermically, helped to effect nature's resistance. Potassium citrate was given in large doses, to maintain the alkalinity of the blood, and the necessary stimulation was attained with strychnine and alcohol. No local nor operative treatment was employed; for when the organisms are found in the blood, they have passed beyond the reach of surgical attack, and must be met by increasing the blood resistance.

Five case of ruptured uterus are included in this study. All were subjected to hysterectomy. Three of these patients had been packed in dirty tenements for the control of hemorrhage, before admission to the hospital, and were therefore classed as septic, and the radical operation performed. One had an instrumental perforation of the uterus, following futile attempts on four successive days, to evacuate it of a six-months fetus and its membranes, by curettage and forceps. The first and fourth were profoundly septic when admitted. Both died, one three days after hysterectomy, and the other on the operating table, after extirpating a lacerated and septic uterus, as the abdominal wound was being closed. The second, third and fifth cases, made complete recoveries, though the convalescence was stormy and complicated, by an embolic pneumonia and phlebitic changes.

Two patients suffering from true pyemia with multiple foci were admitted. One was postabortal, the other postpartal. Both complained of severe joint pain in the knees, elbows and shoulders. The temperature ranged from 101 to 104½, chills or chilliness occurred several times a day, followed by exaccerbations of temperature. The cardiac, pulmonary, abdominal and pelvic examinations showed nothing, except a slight thickening of the left broad ligament. Pus foci developed just above the left elbow in the right calf, on the inner side of the left knee, and at the left ankle. These abscesses were incised, drained and cupped. One patient developed two purulent foci in her right lung, which cleared up under appropriate treatment. Repeated blood examinations failed to show any but attenuated cocci. This patient was repeatedly inoculated with stock staphylococcus vaccine, without noticeable effect. Both cases recovered. In five we were able to demonstrate the staphylococcus in the blood. These women presented no local findings on admission, except great abdominal distension from intestinal paresis, with a high pulse and temperature. Inoculations with autogenous vaccines produced a prompt drop in the temperature curve, and effected a speedy convalescence, in contrast to the effect of vaccines in streptococcus infection.

Twenty-one patients were admitted with pelvic peritonitis from postabortal infections. Seventeen had been curetted before entering the hospital, and four had the uterus emptied after their admission. In thirteen the uterus was found retroflexed or retroverted, which impaired the uterine discharge. The temperature ranged from 102 to 105. The polynuclear percentage was above 85, and the local pelvic exudate was exquisitely sensitive to pressure. In the thirteen in which the uterus was found retroflexed, a free *cul-de-sac* incision was made, and after freeing the posterior adhesions, isolation of the uterus and pelvic peritoneum was accomplished by the introduction of rolls of gauze. These rolls were spread out back of the uterus, from pelvic wall to pelvic wall. A marked temperature reaction always followed within twelve hours, which dropped again in the next twenty-

four. A high Fowler position, and an ice bag over the hypogastrium, completed the treatment. The gauze was left in position for from five to eight days, when it was removed and not replaced. All but one of these patients recovered. This woman was admitted in extremis and died six hours after a *cul-de-sac* drainage.

This procedure we believe to be specially indicated in postabortal septic peritonitis, when the uterus is retrodisplaced, as in no other way can the uterus and pelvis be drained. Two of these women have been subsequently celiotomized, and the writer has been impressed with the absorptive power of nature and time, as the pelvis of each was found practically free from adhesions. Eighteen cases of pelvic abscess were observed. Ten of these patients with pelvic abscesses, had had incomplete abortions. In only three could a gonorrhœal history be elicited. Two followed Cesarean section, both of these women had been placed in the Fowler position immediately after the operation, to favor uterine drainage. This also favored the accumulation of blood in the *cul-de-sac,* which became infected by the colon bacillus, with a resulting abscess, and colon bacillus infection. Autogenous vaccines caused a marked improvement in the general condition, a dosage of 250,000,000 was used. Only one pelvic abscess was postpartal. This patient had had several intrauterine irrigations before admission. All were freely opened and drained through the vagina, and all recovered promptly after the pus was evacuated.

Sixteen cases of uterine and femoral thrombophlebitis were observed. This was a late complication, and presented a definite clinical picture before the thrombosis extended to the thigh and leg. The temperature remained high and irregular, the involution of the uterus seemed to progress at a normal rate, but the pulse remained persistently rapid. The pelvic examination was negative, except for the presence of a slight thickening and sensitiveness of the left broad ligament. Any manipulation of the uterus was followed by an exacerbation of temperature, metrorrhagia was persistent, after the red lochia should have ceased, and was always increased by the pelvic examination. A phlegmasia alba dolens developed in each of these women, and in one a perifemoral phlebitis occurred, producing a dissecting abscess behind the parietal peritoneum, which extended along the femoral to the saphenous opening. This was drained by incisions above and below Poupart's ligament. The convalescence was protracted.

Of the three cases of septic purulent peritonitis, one died fourteen hours after abdominal section and drainage, and two recovered. These two women had been confined four and five days respectively, before admission, and were operated immediately. There was extreme distension of the abdomen, intestinal paresis, a rapid running pulse, rectal temperature of 103, great general prostration, a low leucocyte count, a high polynuclear percentage, and dullness in the flanks. The pelvic findings were negative. The treatment was free abdominal incision, tube drainage with aspiration of the tubes every two hours, a high Fowler position, the continuous Murphy drip and gastric lavage. Absolute starvation was enforced. The writer feels sure, that bold and timely intervention saved these women.

My one case of intramural abscess, occurred in a woman who was admitted with a septic metritis, who had been curetted. For a time she improved, under expectant treatment, but on the fifteenth day her temperature, pulse and pelvic pain increased, and the uterus which was just above the pubes, began to enlarge and become exquisitely tender. The polynuclear count showed 87 per cent. and rapidly rose to 90. On bimanual examination, a tender fluctuating tumor was made out, continuous with the uterus, to the left of the fundus anteriorly. An anterior colpotomy was made, the bladder pushed back, and the abscess opened from below. The bladder was injured during the process. The recovery was prompt, and the vesical fistula healed spontaneously. Should we meet another such case, I would favor adopting the suggestion of Sampson. *i. e.,* to make an exploratory celiotomy to locate the position and anatomical relations of the abscess, before attempting to make drainage.

From study of the foregoing cases, we must summarize as follows: First, that each case of postpartum or postabortal infection must be studied individually, and an accurate diagnosis made on the clinical, bacteriological findings, before any treatment is instituted; second, that nature is competent in the majority of instances to localize and circumscribe the infection; third, that operative procedures should be avoided if possible, and are not indicated unless there is demonstrable evidence of intrapelvic or abdominal inflammation, necrosis or suppuration; fourth, that curettage, douches and examinations during the acute stage, break down barriers and open avenues for the further dissemination of sepsis to the myometrium, parametrium and adjacent tissues, and that the danger from curettage increases with each month of pregnancy; fifth, that enormous pelvic and abdominal exudates may disappear without operation, and that in time enlarged ovaries, tubes, etc., may assume their proper size and function, and further, that as long as the patient's general condition improves, no surgery is advisable; sixth, that all operations are attended with less risk after the acute stage of the infection has subsided, and that an exact diagnosis is more easily made at this time; seventh, that after the uterus is thoroughly emptied, the pelvis should be left absolutely alone, and that we should make every effort to support our patient, and increase her natural blood resistance; eighth, that vaccine therapy has a definite but limited field in the

treatment of puerperal septic infection. Inoculation with autogenous vaccines will promise prompt results in staphylococcic and colon bacillic infections, but in streptococcic poisoning vaccine treatment is unreliable and is of value only when the virulence of the germ is attenuated, or when nature has already developed a phagocytic defense; ninth, that extraperitoneal drainage of local foci should be elected when possible, either by incision just above Poupart's ligament or by posterior vaginal section, and when this is impossible, because of an inability to determine the exact anatomical relations of the local focus an exploratory laparotomy is justifiable in order to make an exact diagnosis, and determine upon the safest route for drainage; tenth, that operative interference, in the acute stage of sepsis, is only indicated in general purulent peritonitis, postabortal pelvic peritonitis, infected tumors in or near the genital tract and uterine rupture, when said rupture has occurred in the course of labor and has been handled outside of a well managed maternity, and finally, that thrombophlebitis is a conservative process on the part of nature to limit the infection, and that any form of pelvic manipulation only tends to break down and separate parts of these thrombi, extending the infection to the more remote parts, thus jeopardizing the patient's life.

EXTRAUTERINE PREGNANCY, REVIEW OF 100 CONSECUTIVE OPERATIVE CASES.*

By CHRISTOPHER GRAHAM, B.S., M.D.,
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THE diagnosis of tubal pregnancy presents great difficulties. Its frequent occurrence, its serious symptoms, its morbidity and its mortality demand careful consideration when patients with pelvic disturbances seek relief. We find little satisfaction when we try to explain the causes that lead to this important pathologic condition. Theories that explain one case fail utterly in others, and we come to the conclusion that many different conditions may lead to this morbid state. Flexions, bends, polpi, diverticuli, tumors, pressure and inflammatory disease, any and all may contribute by preventing the fertilized ovum reaching the uterine cavity.

The estimation that one in every five hundred pregnancies (Hirst) is extrauterine would not be high, if we could determine the number that occur with more or less mild symptoms, which are never presented to the physician or, if presented, are not recognized because of mildness or atypical history. Death of the embryo within the tube and absorption, tubal abortion with death and absorption, and sooner or later a return to fair or perfect health must be the final result in many ectopic pregnancies. If fœtal development is advanced or hemorrhage large, quite a degree of morbidity may follow resolution, from which condition only an operation promises freedom from a life of invalidism.

We found little in our histories to place any cause on a basis of certainty, but we feel convinced that pelvic inflammation does explain a fair share of occurrence, if it is not the greatest factor. Thirty-six patients gave a more or less positive history of a previous pelvic inflammatory disturbance. Twenty-five had tumors. Of these 25, 12 were cysts of the ovary, 4 fibroids of the uterus, 4 hydrosalpinx and 5 pyosalpinx. Only in 7 of the 25 did the history mention any previous trouble. Forty of the patients had no history of previous trouble, or it was not properly elicited at the time of the examination. We believe that exact history writing, careful surgical observations and annotations, and minute pathologic examinations will go far toward solving the problem of etiology.

In our series of 100 cases, the average age of the patient is 32, the youngest 15 and the oldest 45 years. The number having but one child is 17, and the number having no children is 39; 3 had a child less than one year old, while the average time from the birth of the last child to the tubal pregnancy is a little less than six years. Twenty-eight had had miscarriages and 36 gave a history of previous pelvic trouble, which was thought inflammatory. Seventy-nine gave a clear history of disturbed flow, with 65 of that number having missed one or more periods. Pain without flow was clearly recorded in 15 histories. It was also clearly stated in 31 histories that pain preceded flow and in 14 cases that flow came first, while it was simultaneous in 25.

Nausea and vomiting occurred in 42 cases. Chills and fever in 22. The calculated duration of pregnancy before symptoms appeared was a little less than seven weeks.

Symptomatology.—In our series the first symptoms that called attention to the morbid condition were usually not those of a severe and overwhelming type which we are so often taught to expect and in the presence of which a diagnosis should rarely be wanting. Rather were most of them mild or moderately severe, such as we may often find in many pelvic or other abdominal disturbances.

Pain was the most constant symptom, being objectively stated in 92, and subjectively in 41 cases, while but one stated there was no pain. Thirty-five had acute severe pain, 9 of which had shock, fainting or faintness. Forty-seven had moderate pain-symptoms, 10, mild.

The pain is due to distention of the tube, caused (1) by bleeding into tube, around or into the amniotic sac, and (2) to blood in the free peritoneal cavity. Before rupture, especially if hemorrhage into the tube be small, the pain may

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be mild or moderate, well localized in the pelvis, to the right or to the left as the case may be. The pain is clear cut, and often of short duration, with an interval of perhaps complete relief. In tubal abortion also the pain may be at a minimum if pressure to extrude the embryo is not great and if the hemorrhage be small.

When the tube ruptures the symptoms are usually more intense, the patient often finding herself quite unable to exactly locate the greatest pain. Most of the patients locate it as a general pelvic pain, others as a general abdominal pain, while a few complain only of the epigastrium. The same inability to locate abdominal pain holds true in many severe cases of gall stones, appendicitis and perforations. It is among these we get our severe cases with shock, extreme prostration, nausea, vomiting, chills and fever, faintness and fainting. In our experience these extreme cases are rare. These attacks may not be prolonged, and often the patient has an interval of comparatively normal health. However, there is more frequently a decided degree of invalidism which increases as the attacks of hemorrhage, severe cramp and colics are repeated.

Besides this pain caused by the stretched tissue, or blood suddenly freed into the peritoneal cavity, there is a sort of subjective pain which helps greatly in the diagnosis. Tenderness on pressure, and sometimes marked tenderness, with no inflammatory nor infectious history, but the tenderness of an abscess. This same tenderness is shown again by presence of pain when the bowels move. Many complain of this in ectopic gestation and comparatively few in other pelvic disturbances. It is a peculiar, stabbing, cramp-like, sickening pain, and the bearing down pressure, which is a frequent accompaniment of ectopic gestation, is increased at this time. In making the diagnosis in these severe cases, pain is less distinctive than in the milder cases, resembling as it does the pain of perforation in other organs, but the menstrual history, flow and pelvic examination usually bring to mind the real trouble.

The second most constant symptom noted is the menstrual disturbance. On the death of the embryo the uterine decidua loosens and may come away intact, but more often in shreds. This gives rise to the external hemorrhage. These menstrual disturbances and hemorrhages make up a symptom-group that is scarcely second to pain, even if noted less often. We feel that this group is *more* distinctive than pain. When our patient describes the pain that is present in ectopic gestation we must have in mind many morbid pelvic conditions; *i. e.*, appendicitis, perforation of the intestines, stomach and gall-bladder lesions, but if she speaks of delayed menstruation, followed by irregular flow, the first that comes to mind is ectopic gestation. Hemorrhage is internal and external, the latter being of much greater consequence from a diagnostic standpoint. In internal hemorrhage if the ruptured tube or tubal abortion give little blood into the peritoneal cavity the pain and other symptoms are correspondingly mild. If, on the other hand, the hemorrhage is great in amount and into the free cavity the pain, shock, faintness and anæmia are great and give the long known and well described "symptom-complex" of ectopic gestation of the old school.

Internal hemorrhages give evidence for making a diagnosis, and at times definite evidence, but external hemorrhage is much oftener a positive help. The external flow is characteristic; not large, not free, at times continuous, or oftener intermittently prolonged, shreddy, dark, tarry and sticky. Again there is a history of spotting with a pus-like remnant on the examining finger of varying color and consistency. Pain moderately acute in the lower abdomen, colicky in kind, followed soon by a shreddy, scanty flow, irregularly intermittent means usually extra-uterine pregnancy. If to this we add a history of missed menstruation we may safely diagnose ectopic gestation.

Nausea and vomiting noted in forty-two cases are less distinctive in the diagnosis of ectopic gestation. These symptoms occur usually in all severe abdominal trouble where pain is a great factor.

Chills and fever are noted in twenty-two cases. They came fourteen times simultaneously with pain, and in but three cases were delayed beyond the second week. They are not the chills and fever of infection that come in delayed cases. Rather are they the chills and fever that accompany the sudden freedom of much fluid into the peritoneal cavity, and perhaps are of the same nature as are those often complained of in rupture of the appendix, gall-bladder and gastric ulcer. Not a chill pure and simple but an accompaniment of any sudden and severe shock or pain. We believe their value in diagnosis is not greater than nausea and vomiting.

Thorough abdominal and pelvic examinations, based upon a careful history, give a security to the diagnosis. First, one notices the character and consistency of the vaginal discharge, with perhaps variation in color and character at one and the same examination. The turgescent outer mucous membrane, its color, the smooth velvety feel of the vaginal mucous membane, the softened cervix, the patulous os and enlarged uterus are noted. A tender, elastic boggy mass is met perhaps well localized, more often not, extending from side to side quite filling the cul-de-sac of Douglas. It is difficult to outline and this difficulty is increased by the local tenderness. The uterus, often movable upon the mass, is pushed along with it or is crowded forward and upward. The tumor is large, with no prolonged history to account for its size, no history of infection—but the history of pain, missed periods, and scanty, irregular flow.

Palpation has its important place in the diag-

nosis. Rigidity of the muscles, the presence of an ill-defined, elastic, boggy mass, tender to the touch—no feel of fever. In advanced cases one gets clearer information, for the feel is plainer, firmer, perhaps more easily defined, though even the tenderness interferes with exact outlining.

One must hold constantly in mind the clear history of ectopic gestation and be sure of his pelvic findings or "pelvic tumor" will be recorded, and one may congratulate himself when he reaches this sane surgical diagnosis.

Differential Diagnosis:

1. In early abortion, pain usually comes on gradually; it is felt from the back or loin, increases in severity until expulsion of the embryo is complete. There is general pelvic pressure and pain which is continuous. The flow is free, not tarry, and firm large clots are abundant, if the embryo is found that is conclusive evidence. Pelvic examinations show greater uterine changes, a softer more velvety mucous membrane than in ectopic gestation, but if a tumor, a pyosalpinx or a hydrosalpinx be present the difficulty may be so great that a surgical operation only clears up the case.

2. Purulent inflammatory conditions of the pelvis may give pain, missed periods, change in the uterus and a tumor of the tube, but there is no external hemorrhage, no collapse. However, pelvic inflammation gives by rectal touch that thickened boardlike feel that scarcely exists in ectopic gestation. At time the difficulties are so great one is pardoned when he makes only a surgical diagnosis. Then, too, the kind of pain is different in ectopic gestation, colicky and severe. It radiates into the bowel, shoots into the rectum, a sickening pressure which is rather infrequent in pelvic inflammation.

3. In twisted pedicle with its pain and internal hemorrhage, with its occasional external bleeding, shock and collapse one may be undecided. The history is usually one of more or less prolonged pelvic disturbance, with sudden acute peritonitis and frequent bowel obstruction. A tumor with a long pedicle when lifted above the pelvic brim is in danger of twisted pedicle. Hence, it is apt to follow pregnancy, difficult examinations or childbirth. The history of previous tumor will be of aid. These, together with the absence of change in the uterus, breasts, and in the mucous membrane, should help in diagnosis.

4. Gall stones, ruptured gall-bladder, perforating ulcers of the stomach or duodenum and appendicitis all have symptoms in common with extrauterine pregnancy, but the development of a careful history, and physical examination should leave few unmade diagnoses. In gall stones the history of many spells of sharp epigastric pain, radiating to the back with pressure, gas, vomiting and sudden cessation of symptoms and return to perfect health, without menstrual disturbance will place the diagnosis.

In ulcer of the stomach and duodenum we get a history of periods of attack; during the period of attack, pain coming two to four hours after meals with gas, sour eructations, vomiting, all eased by food, to again return two to four hours after food, each meal, each day, during the period, repeating the same history of spells for years. If sudden pain and collapse appear the previous history will fix the diagnosis of perforation.

So, too, in appendicitis, general abdominal pain, tenderness at McBurney's point, location of tumor in iliac fossa, fever, history of repeated attacks of a day, a few days, or weeks with menstruation undisturbed and no indication of sudden anæmia will make the differentiation.

In our series, fifty pregnancies were on the right side, forty-four on the left, one double, others not recorded. Sixty-six cases were diagnosed as ectopic, fourteen (three diagnosed fibroids and four with a question of appendicitis) as pelvic tumor, with a question as to the cause, but no mention of ectopic pregnancy, three as appendicitis, four as twisted pedicle or extrauterine pregnancy, seven pelvic inflammation (pyosalpinx, hydrosalpinx, etc.). In some cases gall stones and perforations were considered in making the diagnosis, one being sent for gall stones only and gall stones were found. Five did not give a diagnosis, though most of them gave a clear history and were recommended to the hospital for surgical pelvic trouble.

Briefly, one gets (1) the history of a normal menstruation missed, usually but a few days (fourteen), possibly weeks; (2) there are more or less severe colicky pelvic or abdominal attacks, alternating irregularly with periods of perhaps normal health, (3) accompanying these painful attacks or immediately following them is a scanty, intermittently prolonged flow; (4) examination reveals pregnant changes in genital tract, smooth, velvety mucous membrane, softened cervix, enlarged uterus, a tumor, tender, localized and not large, before rupture. After rupture tender and large without a prolonged history to account for its size, and no history of infection. Vomiting, chills and fever with fainting and collapse attend the severer cases.

Careful history development and careful physical examination should leave fewer unmade diagnoses in extrauterine pregnancies.

THE DIAGNOSIS OF ECTOPIC GESTATION.*

By CHARLES F. ADAMS, M.D.,

WHILE a great deal has been written upon the subject of ectopic gestation, yet it is a subject so interesting and fraught with such possibilities of an extremely tragic nature to the unfortunate patient so

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afflicted, that I trust I may ask your attention to its consideration this evening. The first case of which we have any account is one described in the eleventh century by Albucasis, an Arabian physician living in Spain. He observed parts of a fœtus escaping through the abdominal wall by suppuration. The existence of tubal pregnancy was first recognized by Riolanus the younger in 1640, and he described it in his Anthropographia, published in 1649, as occurring in the body of a washerwoman in the service of Anne of Austria. Since that time many cases have been observed, some few going on to full term, others rupturing and killing the patient early in the course of pregnancy. It remained for Lawson Tait in 1883 to demonstrate to the world the possibility of surgical intervention with a happy outcome. While his first case proved fatal, it demonstrated that surgical intervention was the surest and safest way of dealing with the condition and his advocacy of prompt operative interference was soon adopted throughout the world, with the result of hundreds of lives being saved and the majority of those so afflicted enabled to round out their period of usefulness.

Any statistics relating to the frequency of ectopic gestation are of necessity very unreliable. Barton Cook Hirst gives it as occurring once in about 500 pregnancies. Winckel saw but 16 cases in 22,000 births, and Bandl, of Vienna, only 3 in 60,000.

The diagnosis of ectopic gestation is comparatively easy in certain cases with the symptoms well marked and defined, but in atypical cases with symptoms masked and simulating other conditions it is exceedingly difficult and at times impossible.

We recognize three primary varieties, the tubal, the tubo-uterine or interstitial, and the ovarian. From these primary types certain secondary types may arise, as tubo-abdominal, tubo-ovarian, and intraligamentary. At the present time it is generally conceded that impregnation takes place in the tube and in most cases at its outer third.

Let us now follow the course of the impregnated ovum and note the various changes taking place. Whatever the cause of the arrest of the passage of the ovum through the tube, whether a diseased mucous membrane, a blind pouch, a tubal polyp, a non-developed tube, a lumen occluded by peritoneal adhesions, or pressure from an adjacent tumor; at whatever point it may be arrested, there development begins to take place. The capsular membrane of the ovum becomes fused with the tubal mucous membrane by means of the chorionic villi.

Up to about the eighth week the villi cover the whole ovular surface, when they begin to assume a polar arrangement for the formation of the placenta. A slight decidual reaction takes place in the tube, decidual cells being found between the fœtal tissues at the placental site. The early stages of development of the placenta are identical in tubal and uterine pregnancy, but in the tube we do not have the same nutritive changes taking place that we do in the uterus, the tissues of the tube wall in contact with the ovum offer but slight resistance to the invasive properties of the fœtal elements and soon undergo degenerative changes. The muscular tissue becomes thinned out and its fibers separated and replaced by connective tissue. The arteries and veins become hypertrophied and the smaller vessels markedly engorged.

As soon as impregnation takes place the uterine mucosa becomes swollen and hypertrophied and decidual cells appear as in normal uterine pregnancy to form a uterine decidua. This may be thrown off *en masse* or piecemeal in the early weeks of pregnancy and as we shall see later may be mistaken by the patient and even the physician in attendance for a uterine abortion. If thrown off *en masse* it presents the appearance of a triangular bag whose walls are much thicker than the membrane thrown off as a product of a membranous dysmenorrhœa and on microscopical examination shows the decidual cells without traces of any villi, which we would expect to find in a uterine pregnancy with a shedding of its decidua. As the ovum continues to develop in the tube we will find one of two events taking place, viz., tubal abortion or tubal rupture. Tubal abortion may be preceded by an intraovular hemorrhage into the subchorionic chamber terminating the life of the embryo and on examination of the specimen after removal we may find the hemorrhage disposed in layers inside the chorionic layer with the embryo lying within the amniotic cavity, situated eccentrically in the chorionic sac. This hemorrhage is proved to be intraovular by finding nucleated corpuscles. When this condition takes place it is known as a tubal mole. The development of the ovum may cease here and be retained as such for a long time in the tube but the more frequent result is for hemorrhage to take place between the ovum and the tubal wall, generally at its point of attachment, and the pressure of the blood behind the ovum separates it from the tube and it is forced out of the abdominal ostium, producing a tubal abortion, complete or incomplete. This generally takes place before the eighth week, as in most instances the abdominal ostium is closed by that time, although if the ovum is situated near the fimbriated end it may prevent closure at this time and abortion will take place later. The other outcome is rupture; this may occur intra or extraperitoneally.

If intraperitoneally there will be a profuse hemorrhage varying according to the size of the vessels ruptured, and as to whether it takes place at the placental site. Rupture at the

outer third of the tube is not apt to be attended with so severe a hemorrhage as when it takes place in the isthmus. Here it is apt to prove rapidly fatal. The blood is poured out rapidly into the abdominal cavity floating up the intestines and if not immediately fatal, clotting takes place and a hæmatocele may be formed, limited by adhesions.

Bland Sutton gives extraperitoneal rupture as occurring in the proportion of one to three of intraperitoneal. My experience and the experience of most authors is that it is nearer one in ten. By extraperitoneal rupture we understand rupture between the layers of the broad ligament, taking place usually at the middle third of the tube where the peritoneum does not completely surround it. Hemorrhage here is necessarily limited by the broad ligament, but it may dissect up the peritoneum and reach as high as the umbilicus or even dissect up the posterior layer. Whenever abortion or rupture takes place and there has been a complete separation of the placental attachment, the product of conception dies, but if the ovum escapes with its placental attachment practically undamaged, it may go on and develop to full term as a tubo-abdominal or intraligamentary pregnancy, or it may undergo a secondary rupture or the placenta encroaching upon the vessels of the tube will occasion subsequent hemorrhage which may render the patient extremely anemic or easily prove fatal.

The tubo-uterine or interstitial form of pregnancy is quite rare, occurring in about 3 per cent. of all cases of ectopic gestation. Here the ovum is arrested in the portion of the tube passing through the uterus. Its course is apt to differ from the tubal form in that rupture is apt to take place later. While in tubal pregnancy rupture is likely to take place from the 4th to the 8th week, and rarely later than the 12th week, in tubo-uterine it may go on to the 16th or 20th week, yet it may rupture much earlier. In this variety abortion sometimes takes place into the uterine cavity and the products of conception are thrown off. This is the most favorable outcome. When they go on to rupture the hemorrhage is apt to be very severe and soon prove fatal. Here the walls are much thicker than in the tubal variety and the vessels are more numerous.

Of the three primary types, the ovarian is the rarest. According to Leopold, fertilization of the ovum takes place before its escape from the Graafian follicle. He believes that when several follicles mature at the same time, a deeply lying one may rupture into a superficial one without the escape of its ovum, in which event the latter may be fertilized by spermatozoa entering the superficial follicle.

The symptoms of ectopic gestation vary considerably according to the stage to which pregnancy has advanced. We will consider it then

First—before primary rupture or abortion;

Second—at the time of primary rupture or abortion.

Before primary rupture or abortion the majority of cases will give no signs or symptoms of anything out of the ordinary and many will not even consider themselves pregnant, as the menses are frequently uninterrupted. It is manifest that in these cases no diagnosis will be made. A certain group of cases will have a sensation of being pregnant and give certain subjective and objective signs of pregnancy, as morning sickness, a feeling of fullness in the breasts, the areola is pigmented and pressure on the breast may yield colostrum. Tubercles of Montgomery appear but there may be nothing to indicate to the patient that she is abnormally pregnant. A certain few have pain referred to the ovarian region situated on the side affected and this may bring them to a physician. In order to make a diagnosis of this condition before rupture, its possibility must always be kept in mind in connection with any pelvic disorder. In the first place a careful history will do more than any other one thing to clear up the diagnosis. We will find possibly a period has been missed and the patient suspecting pregnancy with some of the signs well marked. On examination we may find the vulva of a violet hue, the uterus slightly enlarged, but not to the extent we would expect in a normal uterine pregnancy and the elastic feel of the anterior zone at the junction of cervix and body is lacking. On the affected side we will feel a distended tube, in most cases exquisitely tender and of an elastic consistency; we will also note the pulsating vassels in the vaginal vault.

The affected tube may be situated normally or as it gets larger may drop into the pouch of Douglas or even lie forward on the bladder. If the history shows that there has been no previous inflammatory condition of tubes or ovaries or of any septic endometritis or gonorrhœa, one may naturally conclude that he has to deal with a gravid tube. It would be fortunate indeed if the diagnosis of this condition could be made oftener before rupture, and it could be if the fact was impressed upon the public that as soon as a woman becomes pregnant it should be incumbent upon her to be examined at least once a week by her family physician for the first three months. Any abnormal condition taking place could then be easily noted.

Unfortunately, most of the cases of ectopic gestation come under our observation after tubal abortion or rupture has taken place and it is with these that we have to deal with principally. This generally takes place from the 4th to the 8th week but may occur as late as the 12th week or go even longer. Tubal abortion is generally claimed to be more frequent by most authors than tubal rupture, but my experience at the Columbus Hospital as well as in private practice

has shown tubal rupture to be more frequent. Dr. R. T. Frank has also noted the same condition holding at the Mt. Sinai Hospital in a series of 80 cases reported in the *American Journal of Obstetrics,* 1909.

When rupture takes place into the mesometrium, the symptoms as a rule will be less severe than when the tube ruptures intraperitoneally. The pressure exercised by the blood extravasated between the layers of the broad ligament will act to check the hemorrhage, while if it takes place intraperitoneally, all the blood in the body may be poured out and no hæmostatic effect by pressure noted. On vaginal examination in extraperitoneal rupture, we will find a mass bulging into the vagina, pushing the uterus to one side, and if on the left side infiltrating the connective tissue around the rectum.

The symptoms of tubal abortion are characterized by pain, the signs of internal hemorrhage, nausea and vomiting. These persist for a variable period. If a tubal abortion takes place early in its career, the ovum may be wholly cast off and after the first hemorrhage no subsequent hemorrhages may take place, and the patient after a few days may entirely recover, but if the chorionic attachments are still left in situ, there will be subsequent hemorrhages which may even prove fatal. Tubal abortion, pure and simple, is not apt to be followed by a fatal result and it is these cases which frequently survive without operative interference. The blood which has been poured out becomes absorbed after a variable time, likewise the embryo.

In tubal rupture the symptoms are all more pronounced; the pain is of a severe colicky type, and my colleague, Dr. E. H. Grandin, speaks of it as "green apple pain." It may extend all over the abdomen and is especially marked in the pelvic region; it is generally more severe over the affected side, yet exceptional cases will complain of greatest pain on the opposite side. The signs of internal hemorrhage are evidenced by general pallor and faintness, the surface becomes cool and the skin covered with a cold clammy perspiration, the features are bloodless and pinched, the eyes are staring and there may be convulsive twitchings of the facial muscles. The pulse may be entirely lost at the wrist and felt only in the carotid. Dyspnœa may be marked even to the point of syncope. The nearer the point of rupture to the uterus the greater is apt to be the hemorrhage; accordingly interstitial ruptures are apt to prove rapidly fatal as they involve quite an area of the uterus, more frequently its posterior surface.

Many of the cases met with, fully 50 per cent., will give a history of having skipped a period or going several days beyond the time. At the time of rupture or before, a metrorrhagia may be in evidence, and if you question the patient carefully, you will find this differs in character from her regular flow, and she may tell you that pieces of flesh have come away. These are probably pieces of decidual membrane, and if the decidual membrane should be thrown off *en masse,* she will be apt to think she has had a uterine abortion. Instead of the metrorrhagia there may be only a spotting, or there may be a spotting alternating with a metrorrhagia. Some deviation from the normal will be noted in fully 75 per cent. of the cases.

The temperature at the time of collapse is generally subnormal, but as the patient reacts it varies between 99 and 101, unless the clot should become infected when it will reach 103 to 104.

There is some distension of the abdomen and in most cases on vaginal examination we are able to feel the clots of blood or fluid blood in the pelvis, the thickened tube and sac wall will also be made out.

Brickner in an analysis of 30 cases found rigidity of the abdominal wall present in only 6 so that he does not consider rigidity a determining factor. Boldt calls attention to the presence of a lancinating pain in the rectum as a fairly constant symptom, also pain on moving forward the vaginal portion of the cervix.

Blood examinations have proved of little value in aiding us in the diagnosis.

From what has already been said, one might infer that the diagnosis of ectopic gestation is comparatively easy, but many cases have no distinctive features standing out so that they are easily differentiated from other pelvic conditions.

One of the most common errors is mistaking an ectopic gestation with a discharge of decidual membrane, for a uterine abortion and the patient being imbued with the idea of being pregnant is generally positive that she has miscarried, particularly if the decidual membrane has been passed *en masse.* If this can be recovered and submitted to careful microscopical examination the error may be quickly recognized. The microscope will show the true decidual character and direct our attention to the probability of ectopic gestation. However, not every one has the services of a trained microscopist at hand and other symptoms must be taken into account. It may be that a curettage will be performed and that then for the first time while making the examination under an anesthetic the true character of the condition will be suspected. It is very common in hospital practice to have patients present themselves with the history of having been curetted once or several times, with the idea of removing the products of abortion, the physician in attendance having failed to get a careful history which would show that tubal abortion or rupture had already taken place or was imminent. The character of the discharge is different in ectopic from what we generally find in a uterine abortion. In the former it is apt to be smeary, of a tarry consistency or even lighter than the ordinary menstrual flow. In uterine abortion it is apt to come away in clots. The

character of the pain also differs. In abortion it proceeds from the lumbar region and is of a bearing down character, while in ectopic it radiates all over the pelvis and is particularly marked on the affected side. When considerable doubt arises as to the diagnosis, none of the symptoms having been well marked, particularly in a stout person with thick abdominal walls, puncture of the posterior *cul-de-sac* is advisable. If free blood is obtained our diagnosis is practically verified.

The other conditions most frequently confounded with tubal abortion or rupture are appendicitis, a ruptured pyosalpinx and an inflamed cystic ovary with twisted pedicle.

With an appendicitis we will have the same history of sudden cramp-like pain referred to the right iliac region, the pulse rate is increased, but not to the extent we expect to find it in ectopic, the temperature is raised 1 to 4 degrees and there is marked muscular rigidity on the affected side. The menstrual history of an ectopic is wanting and there are no signs of an internal hemorrhage. On bimanual examination the tube is not felt to be enlarged, and the greatest tenderness is found situated at a higher level.

With a ruptured pyosalpinx, we will have a history of previous infection. On rupture the temperature will run up to 102 to 104; the pain is not so excruciating as in ectopic, but it is continuous; the signs of internal hemorrhage are absent and on examination we will find the tubes bound down in a mass of adhesions and all the pelvic contents more or less fixed.

With an ovarian cyst with twisted pedicle, a previous knowledge of the existence of a tumor would be a guide of the greatest importance. Acute torsion generally takes place in the case of cysts of medium size which have not previously given symptoms and which have not produced any visible swelling, the subjective symptoms having been absent or very slight. Palpation is the most valuable means of differentiation. At the outset we may be able to map out the smooth, rounded, well-defined tumor, which later the distention and rigidity of the abdominal walls may render impossible.

Other conditions with which ectopic gestation may be confounded, are normal uterine pregnancy, particularly in a retroflexed uterus. The elongated neck has been mistaken for the uterine body and the fundus for an ectopic. A careful examination, with an anesthetic, if necessary, should clear up the diagnosis. Pregnancy in one horn of a double uterus may require differentiation, particularly if there are two horns with a common neck. Pregnancy in a rudimentary horn should be considered practically as an ectopic and treated as such.

Malignant disease of the uterus commencing in the fundus may sometimes present symptoms simulating those of an ectopic gestation. A concurrent inflammatory condition of the adnexa may give the history of cramp-like pains, and the presence of metrorrhagia may further strengthen one in the belief that he is dealing with an ectopic.

I mention this as only recently I had a case sent to my service at the Columbus Hospital with the diagnosis of ectopic, which proved to be carcinoma of the uterus, with ovaries and tubes matted down in a mass of adhesions.

Uterine tumors and tumors of the broad ligament may occasionally present some of the symptoms of an ectopic, but with a complete history and a careful examination, a differential diagnosis can generally be made.

I will say only a few words about treatment as it hardly falls within the scope of this paper. Every case of ectopic should be looked upon as a malignant disease to be eradicated as soon as the diagnosis is made. If we can make our diagnosis before rupture so much the better as by an early operation we will save the patient an enormous risk. If ectopic is suspected and operation is not allowed at the time, the patient should be removed to a well appointed hospital and everything be in readiness for an operation in the shortest possible time. The risk is much less for an immediate exploratory laparotomy than to temporize. After rupture has taken place and the patient is seen for the first time at her own home in a profound state of collapse it is best to temporize unless the attending physician is skilled in abdominal surgery. Judgment plays a large part in these cases and the experienced operator will be able to save many, while one unused to operating in the abdomen will so increase the shock that many will die. Speed is a factor of the greatest importance.

Many of our hospital cases are not seen until several days have elapsed after primary rupture, yet they should all be operated as subsequent hemorrhage is liable to take place.

At the Columbus Hospital we do not consider these cases demand immediate operation on admission but hold them for the regular operating day, being always in readiness to interfere if occasion arises.

APPENDICITIS DURING PREGNANCY.*

By C. C. LYTLE, M.D.,
GENEVA, N. Y.

MY excuse for presenting a paper on this subject is not that I have anything new on the much discussed subject of appendicitis, but that I believe the majority of physicians do not know how grave is the condition of appendicitis during pregnancy. In comparison with the total number of papers presented on some phase of appendicitis, very little has appeared in the English language on the present subject. I do not recall ever having heard the subject discussed in any of the medical

* Read before the Seventh District Branch of the Medical Society of the State of New York, at Geneva, September 15, 1910.

meetings which I have attended during the last ten years. Ochsner in reporting 1,000 cases of appendicitis and J. B. Murphy in reporting 2,000 cases, do not mention the complication.

My attention was brought to the subject in a very unpleasant manner about two years ago, when I lost a case of appendicular abscess which seemed at time of operation a favorable case. This case was seen by me in consultation, late in the evening, in one of our neighboring villages. The following history was obtained: Married; age 26; has one child; had eclampsia seven years ago. Had not been well for nearly a week; some diarrhœa; three days before, went to a local fair and the next day consulted her physician. Five months ago had a miscarriage; since then has flowed every two weeks until one month ago, since then she had not flowed any. At the time of my examination there was a large localized mass in the region of McBurney's point. Bimanual examination revealed nothing abnormal with the pelvic organs. She was advised to come to Geneva City Hospital the next morning and a favorable outlook of the case was taken.

She was admitted to the hospital the following morning, with temperature 102 degrees and pulse 92. She was immediately prepared for operation and the operation was done during the forenoon, under chloroform anesthesia, the McBurney muscle-splitting incision being made over the mass. The abscess was opened and pus escaped freely. A split drainage tube with a wick of gauze was employed. In the afternoon she vomited medium amount of brownish fluid. At 3.30 P. M., there was a flow of blood from the vagina. At 8 P. M., temperature was 101.6 degrees; pulse, 88. On the second day her temperature at noon was 99.8 degrees; pulse, 96. At 8 P. M., temperature was 100 degrees; pulse, 100. Third day—the hospital records show as follows: "2 A. M., medium amount of bloody vaginal discharge of a disagreeable odor; 4 A. M., expelled large blood clot." 7 A. M., temperature, 99.4 degrees; pulse, 96; 8 P. M., temperature, 100 degrees; pulse, 96. During the day she had vomited a large amount of green and brown fluid several times. In the evening of the third day she expelled a large clot and a piece of placental tissue. Fourth day—7 A. M., temperature, 99 degrees; pulse, 92. Noon, temperature, 98.6 degrees; pulse, 88. 8 P. M., temperature, 98.6 degrees; pulse, 80. Fifth day—Very restless during a part of the night. 7 A. M., temperature, 97.2 degrees; pulse, 72. 8 P. M., temperature, 100.8 degrees; pulse, 80. In evening, complained of pain in epigastrium. Sixth day—7 A. M., temperature, 99.8 degrees; pulse, 80. During the day a small and one large soft stool followed an enema. At 8 P. M., temperature, 102 degrees; pulse, 100. Seventh day—7 A. M., temperature, 101.4 degrees; pulse, 92. The wound presented a healthy appearance. There was no abdominal distention nor any evidence of peritonitis.

Thinking that the rising temperature and general bad appearance might be due to retained placental tissue, she was taken to the operating room and cavity of uterus was examined and found to be entirely empty. At 8 P. M., she vomited a large amount of dark fluid. Her temperature at that time was 102 degrees; pulse, 104. Eighth day—Slept three or four hours; complained of bad dreams during the night. At 7 A. M., temperature, 100.2 degrees; pulse, 100. During the day the patient became more and more restless and continued to vomit. At times she was delirious, she complained of feeling numb and of pain in liver region. Ninth day—7 A. M., temperature, 98; pulse, 96. Jaundice of skin and sclerotics which was noticeable yesterday, is increased to-day. The patient's urine was cloudy and she was irrational at times. There was no abdominal distention and wound appeared perfectly healthy. At noon, temperature was 97.8 degrees; pulse, 98. The urine at this time was high colored, 1018, acid, no albumen, no sugar, small amount of bile. At 4.15 P. M., patient vomited blood; became very restless and noisy; urine became scanty; at midnight, became very delirious and restraining sheet was necessary to keep her in bed. She yelled very loudly. At this time the size of the liver was much reduced. Dr. Young saw the case in consultation and we agreed that the condition was acute yellow atrophy of the liver. The patient died about 7 A. M., on the next day.

This case is my only one of appendiceal abscess occurring during pregnancy, and the following observations are gleanings from literature on the subject: Munde is credited with being the first to call attention to this subject in reporting a successful case in 1894, although Hancock, in 1848, reported the incision and drainage of a perityphlitic abscess during pregnancy with recovery of patient. Wiggin, in 1892, reported a case, in *Medical Record*, in which diagnosis was made, but operation was refused. The patient died and autopsy revealed a perforated appendix. The paper by Abrahams, published in the February, 1897, number of *American Journal of Obstetrics*, has been much quoted. He reported seventeen cases, twelve of which were operated upon with a death of seven. Five recovered after operation and the five mild cases not operated, recovered. Boije reviewed the literature up to 1901 and collected seventy cases. Vineberg collected ninety-three more in 1907 and reported six of his own, making a total of 169 cases. Since then Baker has collected a total of 212 cases of appendicitis occurring during pregnancy.

The etiology is the same as in the non-pregnant state although some observers believe that the usual constipation and intestinal toxemia of pregnancy predispose to infection of the appendix. This much is pretty clearly agreed upon by different observers, that when disease of the appendix has previously existed, there is a great

tendency to its recurring during pregnancy. *This point has an important bearing upon the treatment of appendicitis in those likely to become pregnant.* While the constipation and toxemia of pregnancy may predispose in a measure to the recurrence, it is likely that the stretching or breaking up of the inflammatory adhesions by the enlarging uterus, are the more important factors after the third month.. After this time the inner wall of the abscess is formed by the wall of the uterus which fact accounts for the frequency of miscarriage in the abscess cases and for the cases of suppurative peritonitis due to the breaking down of the abscess wall after uterus is emptied.

The diagnosis before the third month is practically that of appendicitis in the non-pregnant state, although the vomiting of the appendicitis may be mistaken for vomiting of pregnancy. After the third month many difficulties are encountered. The position of the appendix may be pushed high on the right side by the advancing uterus. The tense, stretched abdominal wall in the latter months interferes with satisfactory palpation. Pains are frequently spasmodic, not unlike labor pains. It is very likely that the vein sign described by Dr. Skinner may be of great value in this particular class of cases. Frankel suggests turning the patient on the left side to allow the uterus to fall away from appendix region. The diagnosis in advanced pregnancy is very difficult and it is likely that many of the right sided pains easily disposed of as "pressure pains," are, in many instances, of appendicular origin.

I wish to lay stress upon the importance of diagnosticating these cases very early. These cases run a rapid course and 50 per cent. of them become abscess cases, as against 15 per cent. of those occurring in the non-pregnant. And the abscess cases are so vastly more grave than in the non-pregnant state that the importance of early diagnosis is much more essential than in the non-pregnant. Moreover, the operation mortality of the non-perforated cases is no higher in pregnancy than in non-pregnancy, so that it behooves us to diagnosticate these cases before they reach the abscess stage. The reason for this is apparent after a glance at the mortality of the cases reported. Six cases reported by Treves all aborted and died. Abrahams says that 70 per cent. of cases of the suppuration variety die. Babley collected 207 cases during pregnancy. Of these 104 were of the non-perforative variety and 103 were perforative. Of the latter eighty-nine were operated and 48.5 per cent. died. The remaining fourteen were treated without operation, and all died. Of the 103 perforative cases, thirty-three aborted before operation and thirty-seven after operation. Of the 104 non-perforative cases, fifty were operated with one death; seven aborted. Fifty-four were not operated, six aborted, and four died.

These figures show that simple catarrhal appendicitis is no more grave in the pregnant than any other time, but that if they reach the perforative or abscess stages they present one of the most serious conditions which the surgeon has to meet. One writer states that the mortality of this condition is the mortality of delay. Baker says that perforative appendicitis is one of the gravest complications of pregnancy with which the surgeon has to deal. The American writers on this subject are practically unanimous on this point. This fact, along with the fact that appendicitis during pregnancy pursues a very rapid course and in a large proportion of cases rapidly reaches the suppurative stage, are sufficient reasons to be on the alert in all cases of pregnant women presenting a possibility of appendicitis. This is particularly true if the woman has ever had a previous attack of appendicitis, for, as already stated, a woman who has had appendicitis is likely to have a reoccurrence during pregnancy.

These statements suggest the importance of every woman who has had appendicitis having the appendix removed before becoming pregnant. Howard Kelly says that the true prophylaxis in a child-bearing woman who has had a well-marked attack of appendicitis is an interval operation. Doege says that a young woman who has had appendicitis and contemplates marriage, or a married woman in the child-bearing period who has had appendicitis, should have her appendix removed before pregnancy. Smith, of Montreal, writes: "Women known to have had appendicitis should be urged to have it removed before marriage, or at least before the third month of pregnancy if it causes trouble."

It seems to me that these are important points which have not been emphasized sufficiently in the frequent discussions on appendicitis.

Without any further discussion in detail I wish to place emphasis upon the following points:

1. About 50 per cent. of cases of appendicitis during pregnancy reach the abscess stage.

2. Mortality of abscess cases is 50 per cent.

3. Urgent need of operation before perforation has taken place or abscess formed. Danger at this time slight.

4. Abortion or premature delivery occurs in about 80 per cent. of acute gangrenous, perforative and abscess cases.

5. In abscess cases uterus should not be emptied before or after operation, as sudden emptying of uterus, which forms inner wall of abscess cavity, causes spilling of pus into peritoneal cavity.

6. Removal of appendix in all child-bearing women who have had a well-marked attack of appendicitis before pregnancy occurs; at least, remove appendix during first twenty-four hours of trouble in it.

TOXINS, ANTITOXINS, ANTISERA AND BACTERIAL VACCINES, WITH COMPARISONS.

By GEORGE F. SEABORN, M.D.,
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THE increasing number of biological remedial agents since the introduction of serum and opsono-therapy necessitates a closer study of the relation existing between them. This is the best accomplished by a short review of the method of production of each and by comparing their therapeutic uses.

Toxins.

In the propagation of some bacteria on certain culture media the waste products of metabolism are exceedingly poisonous. Notable examples are tetanus and diphtheria. When tetanus bacilli, for example, are grown in boullion, and the bacteria have been removed from the remaining liquid by filtration through porcelain, injection of very small amounts of this filtrate, so-called tetanus toxin, frequently proves fatal to a 300 grm. guinea pig. Diphtheria toxin is less poisonous, the minimum fatal dose in this case being greater for a 250 guinea pig. The types of bacteria that produce such potent toxins is very limited. The pathogenicity of streptococci, staphylococci, pneumococci meningococci, etc., is not dependent on such toxin but on the action of the germs themselves when introduced into the body.

Tuberculins.

Tuberculins, some of which may be classed as vaccines, are used both diagnostically and therapeutically. The following chart will explain the preparation, relation and uses of the various tuberculins:

		PREPARATION	Preservative	Uses	Dosage	Dilutions	Reaction.
Tubercle Germs grown on Glycerin Bouillon 5% — TOXINS	Tuberculin Old	Evaporated by heat to 1-10 vol. Filtered and tested.	Glycerin	(a) Diagnostic (b) Therapeutic	0.1 to 1 mg. 0.0001 to 0.001 milligram	3 mins. to 6 Cc.: 1 Cc. = 1 mg. 1 to 100000: 1 Cc.=1-100 mg.	Temperature
		(a) Von Pirquet Test. Undiluted tuberculin supplied in sealed tubes sufficient for one test.	Glycerin	Diagnostic	1 tube on scarified spots	None	Inflammatory reactive area clearly distinct from control. Size at least 1-5 inch. Time, few hours-48
		(b) Tuberculin Ointment, Moro. Undiluted tuberculin 5 Cc ; Anhydrous wool fat, 5 Gm.		Diagnostic	Piece size of pea rubbed into skin over area 4 sq. inches	None	Positive when pale papules to much redness and itching. Time, few hours to 24 or 48
		(c) Purified Tuberculin for Ophthalmic Test. Old Tuberculin precipitated with alcohol, washed and dried, and made into discs containing 3.3 milligrams.		Diagnostic	One drop in eye	1 disc in 5 mins.	Positive: redness, tears, exudate and discomfort; swelling of conjunctiva. Time. 3 to 10 hours or later, lasts 24-36 hours or later to weeks
	Tuberculin, Veterinary	As Old.	Glycerin	Diagnostic in cattle	Depends on package purchased	With ½ per cent. carbolic acid sol. (See note below)	Temperature
	Tuberculin B. F. (Boullion filtrate)	Toxins filtered through porcelain and placed in container.	0.4 per cent. Trikresol	Therapeutic	Varies from .0001 to .001 mg.	1 to 10000 = Sol. A (See below)	
GERMS	Tuberculin T. R. (Tuberculin Residue)	Germs washed, dried, ground—taken up with water, centrifugalized T.O. discarded. Residue dried, ground, and centrifugalized. This operation repeated several times until residue holds in suspension and then so diluted that each cubic centimeter=1 milligram of dry tubercle solids.	20 per cent. Glycerin	Therapeutic	Varies—Wright 1-16000 to 1-4000 mg. Trudeau 1-10000 to 1 mg.	DILUTIONS: 1 of Tub. + 9 = Sol. A, 1 to 10, 1 Cc. = 0.1 milligram. 1 of A + 9 = Sol. B, 1 to 100, 1 Cc. = 0.01 milligram. 1 of B + 9 = Sol. C, 1 to 1000, 1 Cc. = 0.001 milligram. 1 of C + 9 = Sol. D, 1 to 10000, 1 Cc. = 0.0001 milligram.	
	Tuberculin B. E. (Bazillen Emulsion)	Germs washed, dried, ground in porcelain mill for weeks Taken up in water; allowed to stand; heavy particles discarded. Total solids estimated and so diluted that each Cc. represents 1 milligram tubercle solids.	50 per cent. Glycerin	Therapeutic	Same as above	Same as above	NOTE: All tuberculins are best diluted with sterile physiological salt solution containing ½% carbolic acid

Antitoxins.

In the production of antitoxins, the prepared toxin is injected into a horse in gradually increasing doses until it can withstand enormous quantities of the poison without producing any harmful symptoms. The animal is then bled and the blood serum thus obtained is used in the treatment of the specific disease in man. Its action may be incorrectly said to be a chemical antidote to this toxin. The most important antitoxins are antidiphtheric and antitetanic. The former is too well known to require further mention. Of the two, antitetanic

is, experimentally, the more classic but the therapeutic value of this serum is exhibited more prominently in its use as a prophylactic rather than as a cure for tetanus. All gun-shot wounds and Fourth of July injuries which may possibly result in tetanus, should immediately be treated by injections of this serum. One noteworthy fact in the use of all antitoxins is that they should be administered very early and in sufficient doses to thoroughly counteract the already existing toxemia.

Antisera.

Antisera are produced from bacteria that do not elaborate extra-cellular toxins in sufficient quantities to permit of standardization. The germs themselves are injected into the animal. First, the cultures to be administered are greatly attenuated by heat and gradually-increasing doses are administered until such a state of resistance exists in the animal that large amounts of the cultures may be administered with impunity. These antisera may be said to possess an antibacterial power.

The most common antiserum is antistreptococcic serum. This is commercially produced from several strains of the streptococcus; that is, cultures which are obtained from such various sources as puerperal sepsis, malignant endocarditis, erysipelas, from throats and sputum, from cellulitis, phlegmon, etc. These are collectively introduced into the animal to be rendered immune. The best therapeutic results obtained by the early and repeated injection of the resulting serum in large doses, frequently 30 c. c.

Another prominent member of this class is antigonococcic serum. The horse is now the animal employed in its production. Products of the gonococci obtained from a number of sources are used to innoculate the animal. As compared to gonococcus vaccine the serum is preferable in the more acute stages of general gonococcic infection, but in acute specific urethritis, neither gonococcus vaccine nor the antigonococcic serum has proven of great value. In chronic cases of gonorrheal arthritis good results are frequently obtained by the use of both antigonococcic serum and the gonococcus vaccines.

Antipneumococcic serum is of such doubtful value that, at the present time, little may be said in its favor.

Bacterial Vaccines.

In contradistinction to the process used in making antitoxins and antisera, the horse or other animal does not have a part in the production of bacterial vaccines. Cultures of certain pathogenic bacteria, suspended in physiological salt solution, are carefully killed by heat. After the addition of a preservative an approximate number of bacteria per c.c. is placed in a glass container. The count of these bacteria is accomplished by mixing one part of blood with one part of bacterial suspension and two or three parts of normal salt solution, and comparing the number of bacteria with that of the blood cells.

In the treatment of a patient by means of antitoxins or antisera a substance is administered in which antibodies have been already produced; whereas, when bacterial vaccines are employed the patient himself must produce them. The former may be said to confer passive immunity; the latter produces active immunity. One of the specific measurable antibodies produced by the inoculation of man with a bacterial vaccine is called an opsonin. To explain this term, one may state that it is a certain something in the blood plasma which so aids the leucocytes in their warfare upon the invading hosts, the bacteria, that the phagocytic action is greatly enhanced. This action may be said to limit the vitality of the bacteria so that the phagocytes are more readily able to destroy them. The opsonic index is the comparative phagocytosis of the patient's serum and that of a normal pool serum. The technique necessary to obtain the opsonic index is complicated and the slightest inaccuracy produces decidedly varied results. It is accomplished by incubating equal portions of bacterial suspension, washed white blood corpuscles and serum of the patient. A comparison is then made of the number of bacteria contained in the phagocytes with the number observed when pool serum from normal individuals is substituted for the serum of the patient. This index is of great value in indicating the proper dosage, the frequency of injection and the results obtained. In the treatment of the majority of the more common infections it has been found quite unnecessary to take the opsonic index.

There are two distinct classes of bacterial vaccines, autogenous and stock. The former are obtained from the infecting bacteria of the patient to be treated; the latter are previously prepared from similar infecting agents. The question, as to which is the more efficient, is still unsettled. There are advocates of both kinds and it is not within the province of this paper to discuss which is the better. Suffice it to say that the earlier the vaccine is employed, the better will be the results. The delay consequent on preparing an autogenous vaccine counterbalances any advantage it may have over the stock. Again the opsonic-producing power of different strains of a specific germ undoubtedly varies to a considerable extent, and a carefully selected, properly prepared stock vaccine will generally represent a more perfect product than the majority of those autogenously prepared.

Diseases due to bacterial infection may be divided into three classes: localized, semi-localized and general infections. The beneficial effects of the administration of bacterial vaccines are

limited to diseases of the first and second classes.

Bacterial vaccines have been successfully employed in the treatment of patients of all ages. Infants a few days old have not suffered from any harmful symptoms following the use of some of them in comparatively large doses.

Several bacterial vaccines are undoubtedly beyond the experimental stage. Among these are the staphylococcus, streptococcus and colon gonococcus vaccines. The staphylococcus vaccine is placed on the market by manufaturers in four forms, each bulb containing four hundred million bacteria per c.c. The staphylococcus aureus, staphylococcus albus, staphylococcus citreus and combined (albus, aureus, and citreus). It has been found that an initial dose from fifty to two hundred million staphylococci will produce no harmful results, and by cautiously increasing the number and allowing a few days to elapse between the injections, the best therapeutic results are obtained from their use.

These vaccines are employed in the treatment of acne, abscesses, furuncules, otitis media, suppurating glands of the neck, and in fact any infection due to the staphylococcus.

For the benefit of our dental friends it may be as well to say that the staphylococcus vaccines have been used to very great advantage along with local and general measures in the treatment of pyorrhea alveolaris.

Streptococcus vaccine is marketed in ampoules each of which contains forty million killed bacteria of the polyvalent variety. An initial dose, varying from two to five million bacteria is usually recommended. This is gradually increased. This vaccine is employed in the treatment of cases of erysipelas, puerperal sepsis, cellulitis, phlegmon, etc.

Dr. Kerley in his book claims that 95 per cent. of all cases of erysipelas in the newborn are fatal and 50 per cent. in those under one year. Some recent work in the pediatric practice of Dr. E. Mather Sill shows some remarkable results in the cure of this condition with the aid of streptococcus vaccine.

Gonococcus vaccine is marketed in three different dilutions, one containing twenty million bacteria per c.c., another 100 million and a third 500 million. It has been found that though it is usually necessary to commence treatment with doses of twenty million, ultimately large doses are frequently required to effect a cure. These vaccines are used in the treatment of epididymitis, prostatitis, seminal vesiculitis and gonorrheal arthritis. Some recent experiences have shown it also of value, not only in the prevention of pyosalpynx, but also in the cure of this condition. Its use in cases of acute specific urethritis is somewhat limited and clinicians claim various results.

Colon vaccine is supplied in packages containing twenty million bacteria per c.c. and is used in treatment of all infections due to this micro-organism. Some recent papers treating of its use in kidney infections, prove very interesting.

There are a number of bacterial vaccines which must be considered as still in the experimental stage. The first of these is typhoid vaccine. It is put up commercially in two forms; one containing fifty million bacteria per c.c. and used in the treatment of typhoid; the other containing one billion bacteria and used as a prophylactic.

Dr. Austin W. Hollis published in the *Medical Record* a very conservative paper showing the difference between a series of patients treated with vaccine and those untreated. The results spoke very favorably of the vaccine treatment.

A rather novel bacterial vaccine is the Neoformans. This is used in the treatment of cases of cancer, not as a cure for the cancer but to relieve disagreeable symptoms, produced by the mixed infection of the cancerous process. A number of examples have been given in which the pain, the cachexia and other symptoms have been ameliorated by its use. This vaccine is exhibited in packages containing fifty million bacteria per c.c., but frequently doses of two to four hundred million bacteria are required to effect an improvement.

A number of other vaccines, such as pyocyaneus, pneumococcus, miccrococcus catarrhalis, influenza, acne, etc., are at the present time being used experimentally, but it is too early to make a definite statement as to their value.

A rather interesting experiment suggested by Dr. J. M. Van Cott is the use of a combined vaccine containing various pyogenic organisms so that it will be unnecessary to immediately determine the infecting cause. This vaccine should obviate some of the consequent delay experienced in treating cases.

In the use of bacterial vaccines care must be taken not to become too enthusiastic or to condemn without thorough trial. Many factors are to be taken into consideration. The proper dosage, the correct time of administration, the proper interval between injections must all be carefully worked out before conclusive statements can be made. It is said by many that in this method of treatment consists the future of medicine. There is no doubt that bacterial vaccines have decided limitations. Furthermore, the physician should not discard the old methods of treatment entirely, but should use them as auxiliary treatments with the bacterial vaccines. For example, in pyogenic infections around the pelvic region, the "Murphy Drip" should be utilized in connection with the vaccine treatment.

It will be noted in the preceding paragraph mention has been made of antistreptococcic serum and streptococcus vaccine; also of antigonococcic serum and gonococcus vaccine. The question naturally arises, when should the serum be em-

ployed and when the vaccine. In other words, in what conditions should we seek to produce passive immunity and in what active? The condition of the infection must indicate the choice between active and passive immunity. When a patient is unable to produce his own antibodies as a result of the injection of bacterial vaccines, it becomes necessary to introduce these antibodies from without through the medium of serums. Acute general infections, as a rule, are much better treated by means of an anti-serum than by a bacterial vaccine. All acute infections may be said to be localized in the incipient stage, therefore, the very early use of a bacterial vaccine is imperative. Hence the extent of the infection is more or less an index as to which product should be employed. To illustrate by a special example: in the early stage of puerperal sepsis, before much general infection has taken place, we may expect beneficial results from the bacterial vaccine, but when the infection has been allowed to run its course unchecked until it becomes more or less general, anti-streptococcic serum, if the infection is due to the steptococcus, should be of greater value than streptococcus vaccine.

In reporting cases in which bacterial vaccines have been employed, more stress should be laid on the extent and degree of the infection at the time of treatment and more thought should be given to the question, "Can the patient produce his own antibodies, or should they be introduced from an animal already immunized against that infection?"

REPORT OF A CASE OF TRUE STAPHYLOCOCCUS PYEMIA TREATED EXCLUSIVELY WITH VACCINES.*

By WALTER A. SHERWOOD, M.D.,

IN the treatment of persistent furunculosis, carbuncle, and other types of skin infection; in epididymitis, prostatitis, and arthritis of gonorrhœal origin; in selected cases of puerperal sepsis, and in certain other varieties of surgical infections the value of vaccine therapy either by itself or in conjunction with other surgical measures has been quite definitely established, and to-day has a fairly well recognized field of usefulness. In the more dangerous types of septic infection, however, which are characterized by profound constitutional disturbances, such as true pyemia and septicæmia, and in which there is always a grave menace to life, the collected evidence in favor of vaccine therapy, except as an aid to other forms of treatment, is as yet by no means sufficient to justify us in its sole use to the exclusion of other well-known measures. While the present consensus of opinion is strongly in favor of the employment of vaccines in these dangerous types of infection, their administration is only recommended as an aid to and in conjunction with the older well-established methods of surgical treatment, operative or otherwise. Although the result in a single case is by no means sufficient for the formation of definite and valuable conclusions, the writer submits herewith in some detail the report of a case of true staphylococcus pyemia in which for reasons later explained the administration of vaccines was the only form of treatment employed, and in which the curative result of an autogenous vaccine was so certain, so prompt, and so striking that the writer feels justified in making a clinical report the subject of a brief paper for your consideration, and in adding it to the records of those cases which have already appeared in the literature in support of the helpful value and almost unlimited possibilities of this method of treatment in the most dangerous types of the so-called septic blood infections.

Mrs. W., 35 years of age, was admitted for obstetric care in the Methodist Episcopal Hospital on July 22, 1910, in the service of Dr. Humpstone, to whom the writer is indebted for the early history of the case. Her ante-partum record was uneventful, and on August 9th, after a somewhat tedious labor, in which a Voorhees bag was used to facilitate the dilatation of the cervix, she was normally delivered of a full term child. The expulsion of the placenta was complete, and a moderate first degree laceration was repaired on the following day.

While on the delivery table the patient had a chill, which was followed by a moderate elevation of temperature and pulse rate. For the following two weeks she presented evidences of a low grade of sepsis, characterized by foul lochia, mild constitutional disturbances, and a range of temperature between 99 and 102 degrees. With appropriate treatment this condition showed a tendency to subside; the temperature, however, never became normal, and during the third week a more serious grade of sepsis was ushered in with a chill, rise of temperature to 104.5 degrees, increased prostration, backache, vomiting and the usual symptoms which accompany such a profound toxæmia. Almost daily thereafter, sometimes twice in one day, the chill and characteristic elevation of temperature to 105 or 106 were repeated, followed by profuse perspiration and remission in the temperature curve which sometimes fell to 95 degrees or lower.

Careful and repeated pelvic examination by Dr. Humpstone failed to reveal anything abnormal with the uterus or its adnexa. There was no forniceal mass, no point of tenderness. The perineum was healed, the lochia were now inoffensive and cultures taken from the inside of the cervical canal gave nagative results.

A blood count showed 13,200 leucocytes, 70 per cent. of which were polymorphonuclear, 8 per cent. large and 22 per cent. small mononuclear cells. The plasmodium malariæ was not found.

* Read before the Medical Society of the County of Kings, November, 1910.

Examination of the urine showed the presence of a moderate number of pus cells and a slight pain in the right upper quadrant of the abdomen called attention to the kidney as a possible source of the trouble.

Ureteral catheterization was done by Dr. Durham who reported that the urine obtained from both kidneys was identical and showed a small number of pus cells in each specimen. Pyelitis was ruled out, but further abdominal examination revealed on palpation slight tenderness over the lower pole of the right kidney.

A diagnosis of acute hematogenous infarct of the kidney was made by Dr. Humpstone who at this time asked the writer to see the patient with a view to exploration and removal, if necessary, of the suspected kidney.

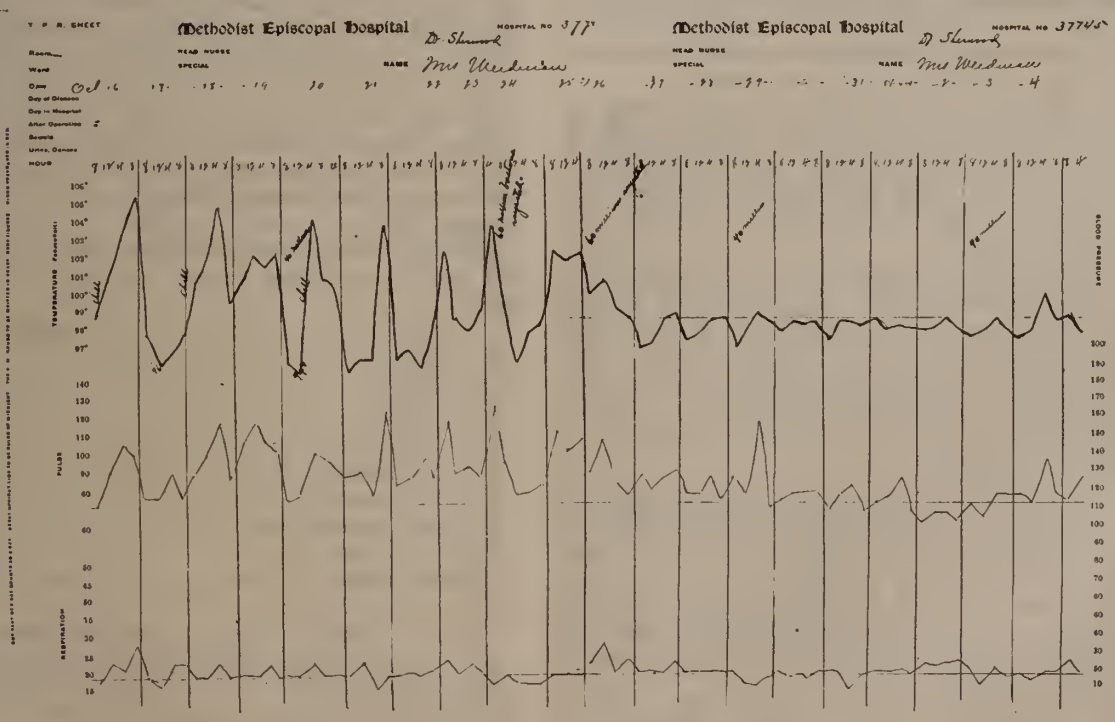
The diagnosis was concurred in and the patient was accordingly transferred to the service of the writer, at which time the following further observations were made. Another blood count showed marked leucopenia, there being only 3,800 leucocytes, 90 per cent. of which were of the polymorphonuclear variety.

The patient was now profoundly septic, having one or more chills each day followed by extreme variations in temperature. There was a progressive anæmia and emaciation, and the patient lay in a stupor with a weak, thready pulse, extreme prostration and apathetic facies; the characteristic clinical picture of true pyemia. With no assurance of a sound left kidney, with evidences of metastatic foci in the right lung and spleen which was enlarged and tender, operation was advised against on the ground that the operation *per se* would have a fatal issue.

The patient was placed on large doses of urotropin, and from September 27th to October 4th, she was given eight successive doses of a mixed stock vaccine, which had been prepared in the experimental laboratory of one of the large commercial drug firms, and contained a mixture of dead streptococci, staphylococci and the colon bacillus. The effect of these injections was entirely negative, no change being noted in either the temperature curve or the general condition of the patient. The chills, marked variations in temperature and prostration continued with increased stupor and evidence of a rapidly approaching fatal termination.

A second ureteral catheterization was made by Dr. Durham, who reported that ʒiv of clear urine were obtained from each kidney, and that the specimen from the right ureter was more highly colored than from the left. Each contained a few pus cells and were otherwise negative.

A blood culture was now requested and for the result and technic of this procedure, I am indebted to Dr. Kelly of the pathological department of the hospital. For purposes of brevity the details of this technic will be omitted except to state that the method employed was so accurate and painstaking as to exclude any possibility of contamination, a condition which sometimes obtains when the blood is secured by means of a hypodermic puncture of the vein wall through the intervening skin. In this instance, the vein wall was exposed by means of a skin incision at the bend of the elbow and the blood obtained through a canula inserted into the vein. The result of this culture in due time showed a



luxuriant growth of pure staphylococcus and from this growth an autogenous vaccine was prepared in the usual manner after the method of Wright, by Dr. Dexter, the attending pathologist.

An illustration of the temperature chart is herewith presented which shows the characteristic temperature curve during the few days preceding the use of the autogenous vaccine. The temperature picture presented is the same as for the preceding four weeks. You will notice the extreme variations in the curve and a note of the daily chill.

On October 20th, the first injection of the vaccine was made in the gluteal muscles. Forty million dead bacteria were used at this time. You will observe that the chills which had recurred at regular daily intervals ceased after the first injection, although there was no change in the temperature curve.

On the second day after the second injection of sixty million bacteria which was made on October 24th, you will observe an immediate reduction in temperature to the normal point.

Three subsequent injections, one of sixty millions, and two of forty millions staphylococci, were made at intervals of several days, the last on November 4th, and it may be observed that since the administration of the second dose, the temperature record showed a perfectly normal course and has continued to do so up to the present date. There has been a steady improvement in the anæmia and the patient has progressed rapidly towards a complete restoration of health. There have been no ill effects or unpleasant sequelæ and the patient has recently been discharged from the hospital in excellent condition.

In submitting a report of this case, the following simple conclusions may be drawn:

1. That the case was one of true pyemia, as evidenced not only by the typical clinical history and symptoms, (metastatic foci, chills, fever, sweating, etc.), but also by the isolation and growth of a pure staphylococcus from the circulating blood.

2. That the administration of an autogenous vaccine prepared after the method of Wright from a culture of the patient's own blood, was solely responsible for this striking result. This is unquestioned by all of those who were associated in the care of the patient and several others who observed the course of her disease as a matter of interest.

3. That the employment of the so-called stock commercial vaccines had no perceptible effect on the symptoms or course of the disease and was therefore of negative value.

4. That in order to obtain good results in similar cases, the greatest importance must be attached to the isolation of the offending organism from the circulating blood.

5. That the result obtained offers some probabilities and hopeful anticipations in a field of surgery in which operative and other methods of treatment are of little or no avail.

In the preparation of the vaccines and their administration, it may be noted that the opsonic index was disregarded.

I wish to express my indebtedness to Dr. Humpstone for referring the case to me and for his accurate observations during the puerperium; to Dr. Durham for his unbiased reports which were of great assistance in the exclusion of operative treatment, and especially to Drs. Dexter and Kelly, of the pathological department, for their painstaking efforts and accurate technique, without which this report would have been of no value.

THE USE OF BACTERIAL VACCINES IN MIDDLE EAR INFECTIONS IN INFANTS AND YOUNG CHILDREN.*

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In the *Medical Record* of August 10, 1910, in an article entitled, "Vaccines in the Treatment of Various Bacterial Infections in Infants and Young Children," I reported the results of vaccine treatment of 39 cases of otitis media, together with other cases of bacterial infection.

Since that time I have continued my work in vaccine therapy on a larger scale. In this paper, however, I shall only cite the cases of middle ear infections. A total of 124 cases of this disease were treated. Of these 70 were cured, 22 improved while under treatment, 24 were lost sight of or stopped coming to receive injections. In 5 there was no improvement, and 3 were operated on for mastoid abscess and eventually were cured. The ages of these 124 children were as follows: 41 were under one year of age; 24 from one to two years; 27 from two to five years; and 32 from five to ten years of age.

The following is the length of time the ears had been discharging before coming for treatment:

1 day in	10	children
2 days in	6	"
3 days in	15	"
4 days in	9	"
5 days in	2	"
1 to 2 weeks in	51	"
1 to 3 months in	6	"
3 to 6 months in	16	"
1 to 3 years in	3	"
Since birth	4	"
Total	124	children

In 62 cases there was no history of previous

* Read before the Manhattan Medical Society, January 27, 1911.

disease, while in 62 other cases there was a history of the ear trouble following an acute disease. Thus in 21 cases it was a sequelæ of measles, in 7 of scarlet fever, in 12 of diphtheria, in 18 of cold in the head or influenza, in 3 of pneumonia, and in 1 of adenoids.

Upon examination of the culture growth from the discharging ears the following bacteria were found both separately and in combination: Staphylococcus albus, 39 times; staphylococcus citreus, 12 times; staphylococcus aureus, 19 times; streptococcus, 26 times; staphylococcus aureus, albus, citreus, and streptococcus, 12 times; diphtheria bacillus, 8 times; influenza bacillus, 4 times; diplococcus or pneumococcus, 4 times.

In 68 of the 124 children were given a vaccine corresponding to the bacteria found by culture growth, while 56 were given a combined vaccine consisting of all the staphylococci varieties, together with streptococci and colon bacilli.

In all 391 injections were given in this series of cases. Fifty-nine children got 1 injection each; 35 got 2 injections; 8 got 3 injections; 9 got 4 injections; 3 got 5 injections; 5 got 6 injections; 1 got 7 injections; 3 got 14 injections; 1 got 9 injections. The length of time these cases were under treatment varied from 1 day to 6 months. Fifty-five cases were under treatment from 1 day to a week; 37 from one to two weeks, 10 from two weeks to a month; 12 from one to three months; 4 from three to six months. The average time under treatment of the majority of cases was from one to two weeks, and the average number of injections was *two*.

Our figures show over 56 per cent. of cures, and 95 per cent. were either cured or improved while under treatment, many receiving one or two injections and then discontinued the treatment.

The average dose of vaccine given was of the staphylococcus varieties 400,000,000 bacteria; of the streptococcus 40,000,000; and of the combined vaccine 50,000,000 of the streptococcus, 500,000,000 of the staphylococci (albus, aureus, citreus), and 100,000,000 of the B. Coli Communis.

The vaccines were injected, with antiseptic precautions, usually deep into the buttocks of the child. Within 24 hours there was as a rule a slight reaction as evidenced by slight rise of temperature and increase of pulse rate, which lasts for a day or two, and at the end of the third day an improvement in the local condition was generally noted. It is therefore, advisable to give another injection of the vaccine on the fourth or fifth day.

Instructions were given in these cases that the ears be kept clean by the use of boracic acid solution as often as necessary.

I have administered the combined vaccine 123 times to 56 children with no bad after effect. As no harm can possibly result, I favor the use of this vaccine, as it may be given with assurance before a bacteriological culture growth is made, and with the advantage that the patient receives the benefit of the vaccine from 24 to 72 hours earlier. In many infections time is an all important factor, especially in those of a virulent type where delay of 24 to 48 hours may mean the sacrifice of the life of the patient. In many cases the delay in treatment, necessitated by the preparation of autogenous vaccines, greatly diminishes the chances of success, as these patients before receiving vaccines become so thoroughly poisoned with the toxines of the invading bacteria that they have not the power to react.

Dr. Van Cott, who has carried on extensive studies with combined vaccines of the pus forming bacteria, and who has treated a large number of cases of severe infections of various kinds, believes that the virulent strains of various species of bacteria are far more important than autogenous strains. He reasons that the infection is not original to the diseased host but is a specific organism coming from another person. Therefore, a virulent strain of the organism should be more potent than the autogenous strain.

In conclusion I would say that my experience leads me to believe that, when used early with care and discretion, bacterial vaccines in many local infections are of unquestionable value and that they have a large field of usefulness.

A CASE OF OTITIC MENINGITIS AND TEMPERO-SPHENOIDAL ABSCESS. OPERATION. RECOVERY.

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H. S., age 25, was admitted to the Medical Division of Mt. Sinai Hospital July 6, 1910. He was irrational at the time. The history as obtained from the patient's family was that for a few days previously he had had excruciating right-sided headache with considerable temperature. No chills or vomiting. As a child of five years he had had a right-sided ear discharge for several months and had been operated for some post auricular complication, the line of incision of which being evident. The hearing was but slightly impaired. Examination showed marked retraction of the head, bilateral Kernig, marked rigidity of the neck and absent Babinski reflex. The patient was restless and hyperæsthetic. Marked tache cerebrale and slight left facial paresis were present. The right tympanic membrane was almost entirely missing and a very scant amount of foul detritus was present in the depths of the auditory canal. The region of the mastoid was questionably sensitive, but owing to the irrational and hyperæsthetic state of the patient, this could not be

definitely determined. Other than an irregularity of respiration, the physical examination was negative. Temperature 103, fluctuating during the ensuing five days from 99 to 103. White blood count, 129,400. Polynuclear count, 91 per cent. Blood culture negative. Lumbar puncture July 7th. Cerebro-spinal fluid under great pressure and cloudy. Reported to contain the bacillus mucosus capsulatus. Thirty c.c. of Flexner's serum was injected, with a temporary improvement in the symptoms.

On July 10th another lumbar puncture was made. The withdrawn fluid was clear and bacteriologically sterile. Examination of the eye grounds showed a moderate degree of œdema; the left facial paralysis now more pronounced; meningitic symptoms as on admission. Caloric tests of the auditory labyrinths showed the vestibular apparati to be functioning. July 13th. Patient transferred to the Otological service for operation. Temperature, 104. Profound coma present.

Operation: Consisting of the usual curvilinear post auricular incision, extending well up anteriorly over the squamous plate of the temporal bone. The skin and periosteum being retracted it was seen that the entire mastoid process was filled with an encapsulated choleastomatous mass, the cortical covering of the bone being entirely eroded. This choleastomatous formation was curetted away, the remaining portions of the mastoid cortex were removed with the rongeur, as well as the contiguous portions of the squamous plate, exposing an area of dura about two inches in diameter. The dura was much congested and thickened and extremely tense. Incision of the dura and the underlying brain to a depth of less than one inch, in a forward and slightly downward direction was followed by the escape of a foul smelling pus, which was subsequently reported to contain streptococci and saprophytes. Much cerebrospinal fluid escaped from the opening in the dura. A hollow tubular instrument having been introduced into the brain cavity in order to explore its extent and to inspect its interior, the cortical incision was enlarged toward the floor of the cranial fossa and a thin strand of rubber tissue drain was introduced. The abscess cavity had no limiting membrane, therefore can be classified as of an acute type. It was considered wiser not to perform the complete radical mastoid operation at the time owing to the patient's critical condition, and inasmuch as the hearing was supposedly not much impaired.

No route of infection could be demonstrated at the operation, the tympanic and antral roofs not showing any areas of necrosis.

For a number of days after the operation the patient's condition remained very poor, the mental state being much disturbed.

After the change of dressing upon the third day, the temperature dropped to 99 degrees and remained normal throughout the entire convalescence.

There was very little secretion subsequently from the abscess cavity and the drain was left out after the seventh day.

The mental state gradually improved, as well as all other symptoms, and at the expiration of two weeks the patient was out of bed.

Little difficulty was encountered in the management of the brain hernia which was held in check by pressure pads.

The growth of epithelium over the dura was extremely slow, but the use of a 10 per cent. ointment of scarlet red proved very beneficial.

The convalescence was otherwise uneventful.

TREATMENT OF DIFFUSE PERITONITIS.*

By G. D. GREGOR, M.D.,
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FROM a glance through recent medical literature one would naturally think that to discuss the nature or treatment of diffuse peritonitis would be entirely superfluous in our society. But despite all this literature on the subject it seems hard for the profession to unlearn some of the traditions of the past. It has occurred to the writer many times that it would be an advantage to the profession if the term peritonitis as a disease in itself could be excluded from our books. It certainly would be a happy circumstance that would wipe out all that has been written of this disease, prior to ten years ago, and also eliminate it from the mind of the profession, thus allowing us to begin again with a clean slate. Then armed with a little anatomy, and considerable physiology of the peritoneum, with a little bacteriology and an accurate idea of the valuable points in the peritoneal cavity, no physician would be satisfied with the diagnosis of peritonitis alone, but would pursue his investigations until thoroughly convinced as to the underlying cause. No case of peritonitis can be treated scientifically and probably not successfully without an accurate idea of its cause, or as it usually is, the disease that has preceded it, be it pus tube appendicitis or gastric ulcer.

The term diffuse peritonitis is used advisedly. It does not seem necessary to wait until the entire peritoneal cavity is invaded by the inflammatory process before we designate it as diffuse; nor should we feel the necessity of accompanying such diagnosis with the death certificate of the patient as the late Dr. Senn taught. It surely is not a local process even if the infection has traveled no farther than the navel in its upward or downward progress from its original source. Our nomenclature along this line needs to be

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better standardized for what to one man is a local process is to another a general peritonitis, what to one is a diffuse inflammation to another is simply an appendicitis. I am willing to admit, however, that the distinction between a local process and beginning diffuse inflammation is often difficult. It probably is a fact that every local inflammatory process is accompanied by more or less reaction throughout the adjacent peritoneum which gives rise to symptoms, and conditions within the peritoneal cavity, resembling a spreading infection that may confuse the best diagnostician and the best pathologist until careful bacteriological studies have been made of this apparently infected peritoneum.

To intelligently treat peritonitis we must remember a few fundamental facts regarding the anatomy and physiology of the peritoneum. It is then a serous sac, of very irregular shape, and of an area nearly equal to the external surface of the body; that in certain localities it is in remarkably close relationship to the lymphatic system; that this close relationship is most marked in the diaphragmatic region where the lymph arches virtually reach into the peritoneal cavity; that this arrangement is a special device of nature to favor rapid absorption; that it is capable of absorbing fluids, bacteria and even foreign particles into the lympathic system at an extremely rapid rate. The general circulation also plays an important part in this absorptive power of the peritoneum, but it is secondary to that of lymphatics.

This absorptive power of the peritoneum is not uniform throughout but as has been intimated is most marked in the diaphragmatic region, next comes the omental area, then the visceral region, the parietal surfaces, and finally the pelvic portion which has the least absorptive power of any part of the peritoneum. If we will but stop a moment to think of it, this is in accord with clinical experience. Infections in the upper abdomen are the most serious. An appendiceal abscess located among the coils of intestines gives us more severe symptoms than one external to the colon on the parietal wall, while the pelvis may be full of pus without producing very serious constitutional results. Then we can say that the whole clinical picture of acute peritonitis depends upon this absorptive power of the peritoneum and that it is not always the most extensive inflammatory trouble that is most to be feared, but rather, other things being equal, it depends upon the location of the process.

From a clinical standpoint we can consider peritonitis as a bacterial disease. We still have reported, occasionally, cases which are said to be idiopathic, and other cases where the bacterial origin of the disease could not be discovered, but these cases are so rare that they need not be considered. In my own experience no such case has occurred. In every one investigated there has been a continuity of tissues from the source of the infection, to the peritoneum, except in one case of pneumococcus infection. In this case there was a left-sided empyema, but no direct perforation of the diaphragm from pleura to peritoneum could be found, though there might have been such perforation but so small as to have escaped observation. A lymphatic or hæmatogenous infection, however, could readily have occurred.

Murphy gives the following bacteria as those of most importance in producing peritonitis in the order named: The colon bacillus, the streptococcus, the pneumococcus, the bacillus pyocyaneus, the typhoid bacillus, the gonococcus and the staphylococcus pyogenes aureus. These bacteria gain entrance to the peritoneal cavity usually along well known routes. These routes are in the main but four, and are: the appendix; the female genitalia; the pyloric region, and the gall bladder. Probably 95 per cent. of all cases of peritonitis can be traced to one of these sources. Penetrating wounds of the abdomen, rupture of the bowel by blunt violence, perforating typhoid ulcers, extension of infection from a suppurating navel or epididymis, perforation of a liver or lung abscess will account in the main for the remaining 5 or 10 per cent. The first four sources of infection, however, should always occupy the foreground when we are approaching a case of peritonitis.

To refer again to the physiology of the peritoneum, the first means of defense it takes against invasion is absorption; second, there is a pouring out of serum containing antibacterial, antitoxic and opsonic bodies and phagocytic cells. The effect of this secretion is the destruction of the bacteria by granular disintegration and the liberation of endotoxins. Now the peritoneum is so well able to take care of its own infection that she has often little regard for the general welfare of the patient. If the invasion be extensive and the destruction of the invading bacteria and consequent liberation and absorption of endotoxins is too rapid the patient dies of a fulminating toxæmia. So this ability of the peritoneum to care for infection is not always an unmixed blessing unless we aid her along a line which I shall mention.

While wishing to avoid the pathology of peritonitis it seems necessary, however, to mention another function of the peritoneum before passing directly to the treatment, as it has a direct bearing upon the subject. In addition to the serous exudate previously spoken about, there is also deposited in the face of infection, a fine film of fibrum which serves to entrap the invading bacteria and render them susceptible to the action of the phagocytic cells. If the invasion be not too rapid this entraping of the bacteria tends to localize the process and then nature builds a wall of exudate about the infected area thus shutting it off from the general peritoneum.

and making of it a purely local process, which may eventually result in the production of adhesions or the formation of an abscess.

The ability of the peritoneum to care for infection depends in the first place, upon the rapidity of the invasion, or in other words, the doseage; upon the type and virulence of the invading bacteria and upon that quality of the individual that we vaguely speak of as the resisting powers of the patient. Foreign material introduced into the peritoneal cavity with the bacteria greatly increase the chances of dissemination. Such foreign materials may be particles of food, fecal matter, bile, urine, cyst contents or extraneous substances introduced through external wounds of the abdominal wall.

Any procedure, whether it be movements of the patient, increased respiratory efforts, manipulations of the abdomen or increased peristalsis produced by drastic cathartics, will tend to disseminate the invading bacteria and make it more difficult for nature to control the invasion, therefore it naturally follows that our aim in treatment should be first to remove the source of infection and second to minimize the dissemination of the bacteria already in the peritoneal cavity.

No doubt, the title of this paper suggests to most of you operation, but the result of operations depend so much upon the pre-operative treatment that I feel more like giving most of my time to the general management rather than to the operative treatment. To illustrate this point: A few months ago a child was brought to the hospital suffering from general peritonitis; the attending physician gave this history: he had seen the case the day before, she had been sick two or three days with pain in the right side and some vomiting, there was a bunch in the appendiceal region, but he was not satisfied as to its nature, so he made up his mind to give a brisk cathartic and find out what it was and he found out within a few hours. The effect of peristalsis produced by the cathartic broke down nature's barrier about the infected region and a diffuse peritonitis was the result. Deaver puts it very tersely when he says: "The first sign of oncoming peritonitis, or even of a condition known frequently to give rise to it, should be the signal for the institution of anatomical and physiological rest of the intra-abdominal organs and particularly of the gastro-intestinal tract."

This is the key-note in the treatment of peritonitis. Therefore, the first thing toward this end is to put the patient in bed, thus obtaining bodily quiet and a diminished respiratory activity. Following rest in bed and the limiting of bodily movement, we endeavor to control peristalsis by withholding all nourishment by the mouth, both solid and liquid. In no case of impending or established peritonitis give a cathartic. I know of nothing that will more rapidly disseminate the infection throughout the peritoneal cavity than a good brisk cathartic.

There are so many conditions of gastro-intestinal irritation that are relieved by this method, that it is virtually a household rule, especially with children, to administer a laxative if there is pain in the abdomen. It has occurred to me many times that the cause of the large percentage of diffuse peritonitis occurring in appendicitis in children was due to the mother making a diagnosis of worms or over-eating and administering a cathartic. I have seen the deplorable effects of cathartics so frequently in my consultation work, that I have often wished I could take down some of the time-honored mottoes from the walls of the house and substitute one that would say, "If the child has a pain in the belly do not give a cathartic but send for the doctor." I believe, however, that a soap and water enema given slowly and carefully will often relieve the patient and should be a part of the regular treatment. An ice-bag to the abdomen diminishes peristalsis and absorption and further tends to keep the patient quiet, so it should be used. The giving of an opiate in peritonitis is strongly condemned by most authorities at the present day, as it tends to intestinal retention and consequent toxic absorption, it is said to retard leucocytosis, it interferes with the kidney excretion and therefore of the elimination of toxins by the kidneys, and still I use it guardedly as it diminishes restlessness and peristalsis.

Perhaps one of the most important steps in the treatment of diffuse peritonitis that has been taken within recent years is the postural treatment, or in other words the Fowler position. This consists, as you know, of putting the body on a slant of 40 to 50 degrees either by elevating the head of the bed or by the use of back rests. Several different methods have been devised but all with the same object in view. The idea of the position is very simple, its purpose is to drain noxious fluids away from the absorptive area of the peritoneum—the diaphragmatic area—to the less dangerous area, the pelvic. I believe that this should be a part of the pre-operative treatment as much as a post-operative method.

A short time ago a boy of 13 years was brought to the hospital with the following history: Acute right side abdominal pain and vomiting Saturday night; Sunday, pain less but more soreness in the side. He was treated by the mother by the usual method, by cathartic, with the usual result. At eleven o'clock Sunday night he was seized with a terrific general abdominal pain and vomiting. He was seen at 6 A. M. Monday morning by the family physician who brought him to the hospital as soon as arrangements could be made; when I saw him at 1 P. M. his condition was desperate, countenance palid and pinched; eyes sunken, extremities cold and clammy, pulse 160, temperature 102

degrees; general abdominal rigidity and tenderness. Now, what had happened? A ruptured appendix letting free a big doseage of virulent bacteria into the general peritoneal cavity, the destruction of many of them by the phagocytes, the liberation of endotoxin and their rapid absorption through the diaphragmatic area, resulting in a fulminating toxæmia. No doubt this absorption was greatly favored by his having been moved 6 miles on a cot bed over a rough country road and 25 miles in an express car in the same position. Elevation at an angle of 45 degrees, continuous proctoclysis, the withholding of everything by the mouth and hypodermic stimulation restored his condition sufficiently after 60 hours so that we were able to remove the gangrenous appendix and drain the peritoneal cavity with ultimate recovery of the patient. Now, I believe that immediate operation would have killed this boy, and I believe that he would have died under any treatment other than the Fowler position and Murphy's proctoclysis. Then of equal or rather of more importance than the Fowler position in the treatment of diffuse peritonitis is the use of Murphy's protoclysis. This consists of the constant administration of a saline solution by the rectum. The reasons for the introduction of fluid into the system by this method are many but are virtually all covered, when we remember that in diffuse peritonitis the patient practically is bled into his splanchnic vessels. So we restore the fluid to his circulation. By restoring the circulatory fluid we stimulate the heart, the kidneys begin again their work and carry off deleterious products, and the other glandular organs begin again their functions and the patient is put in condition to make a fight against the invading bacteria.

You probably are all familiar with the method of using continuous rectal irrigation. Personally I have never used any of the recent contrivances to improve upon Murphy's method, but still use simply the douche can with the level of the fluid from 6 to 12 inches above the anus. The fluid is kept warm by two hot water bags in the bed. The tip that is introduced into the rectum has a sharp bend in it so as not to be disturbed by the bedding when the patient moves, thereby irritating the rectum. From a pint to a pint and a half of the saline solution can be used every hour by this method. In operated cases, usually at the end of 24 hours, I begin to interrupt its use, and it is usually permanently discontinued at the end of 48 hours. I have had a few cases where it was not well borne, that is, the patient became more restless and apparently more distended by its use. In such cases I have used it for an hour, then discontinued it for two hours.

I believe that the most benefit is obtained by the use of the Murphy method in operated cases, but I am equally sure it should be used in all cases operated or not. Stomach lavage is of use occasionally in diffuse peritonitis. In cases of extensive intestinal paresis it will relieve the troublesome vomiting for a time, but with some patients it produces such an amount of gagging that its benefits are over-shadowed by the damage done by the muscular exertion produced.

In every case of diffuse peritonitis the question of operation is bound to come to the front.

In acute perforation of the stomach or duodenum or perforation of the intestines by accidental causes or typhoid ulcers, operation is the only thing that is going to cure the patient. That is the source of the infection must be cut off, and the sooner this is done the better the chances for the patient's recovery. Such operations done during the first 24 hours give good results, but after that time the mortality rapidly increases. In gall bladder, appendix and pelvic organ infections there is always the chance of the peritoneal invasion subsiding leaving us with a local abscess to contend with which can be cared for with little danger.

There is no question, however, but that the safest method, especially in appendix patients, is early operation. The earlier the safer. After 36 or 40 hours it is a much more serious matter to decide which is the better course to pursue. I think it can be stated as a fact, that the general practice among surgeons is to operate if the general invasion has not existed more than 24 or 36 hours, but after that point opinions differ. Dr. Gerster in a recent paper stated that it is the custom of the Mount Sinai Hospital to take every case of diffuse peritonitis directly from the receiving room to the operating room, without regard to the length of time that the peritonitis had existed. Other operators make it a hard and fast rule not to operate a case of diffuse peritonitis if the trouble has existed over 24 hours, but to wait for localization and then simply open the abscess. The trouble with this method is, that many cases never localize but go on to a fatal termination. My own experience has led me to pursue a middle course between these two plans of treatment. I always operate as early as possible, but if the patient's condition does not seem favorable to operate when first seen, we try to improve the condition by withholding everything by the mouth, by the Fowler position and by rectal infusions of a saline solution until the condition is favorable for operation, and just as soon as it is we operate, whether it be the third, fourth or fifth day.

The operation is always made as brief as possible. There is no flushing out of the peritoneal cavity, no wiping or sponging. If the appendix is the offending organ it is taken out, if it can be done without unduly prolonging the operation. If it is buried in extensive adhesions or is difficult to find, it is left alone to be dealt with subsequently if necessary. The pelvis is drained with a rubber tube supplemented with a cigarette drain; a cigarette drain is also used at the base of the appendix and another one is carried into

the kidney fossa in occasional cases. The wound is closed down to the drains, a voluminous dressing is applied which is kept moist with a normal salt solution and changed when necessary. The patient is put in bed and the treatment continued as already outlined.

Usually within 48 hours the patient has so improved that the saline is dicontinued and the bed is lowered to the normal or nearly normal position. I believe it is a mistake to continue the Fowler position too long after operation, as it favors a mechanical ileus by gravitating the small intestine over the drainage area, where adhesions occur and subsequently angulation of the gut and obstruction. In cases where the paresis of the bowel does not disappear (a dynamic ileus) after operation as indicated by a falling temperature but with increased distention and vomiting and with inability to pass flatus. I first resort to a few doses of eserine salicylate and if this does not answer a cecostomy is done, or any distended loop of intestine seen in the wound is opened. It is always a disagreeable procedure to resort to, but beyond question it is a life saver sometimes.

There are many other interesting points in the management of these desperate cases that I should like to mention, but this paper has already over-run its legitimate dimensions, so I shall leave it to the discussion to take up the points that the society deem of the most interest.

COUNTY HOSPITAL CARE FOR THE TUBERCULOUS.*

By D. B. HARDENBERGH, M.D.,
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CHAPTER 341 became a law of the State of New York with the approval of the Governor on May 13, 1909.

In brief, it provides that the board of supervisors of any county shall have power by a majority vote to establish a county hospital for the care and treatment of persons suffering from tuberculosis. When the board have so voted it shall have power to purchase real property in any town, village or city of the county; if necessary, by condemnation; to erect necessary buildings or alter existing buildings after the plans have been approved by the State Commissioner of Health.

To cause to be assessed and collected such sums, and to borrow on county credit such sums as necessary for purchase, erection, maintenance and improvements. To accept gifts and bequests, and to appoint a board of managers.

In regard to the board of managers it is further provided that they shall be from the citizens of the county and five in number, of whom two at least shall be practicing physicians. This board shall appoint a superintendent, not of its number, a graduate of medicine, with at least three years' actual practice of his profession.

The board of managers shall fix the salaries of superintendent and all other officers and employees; as also the amount of time to be spent at the hospital by the superintendent in the discharge of his duties.

They shall make rules and regulations, maintain effective inspection, visiting the hospital at least once a month, keep records and render an annual report to the board of supervisors. They shall receive no compensation, but be allowed their actual expenses.

The patients are to be received through application to any reputable physician in the county. Such physician fills out application on blanks furnished him, and patients are to be received in order of applications as they are filed, the presence of tuberculosis having been verified by the superintendent. No discrimination is to be made in order of reception between the wholly charitable cases and those whose expenses, which shall be merely the average cost per capita, are in whole or in part met by themselves or family.

Should vacancy exist and there be no pending application from the county in which the hospital is situated it shall be the duty of the superintendent to receive such applicant from another county as shall have the per capita expenses guaranteed by the Superintendent of Poor of the county from which he comes.

The first to take advantage of this act was the county of Ontario, whose board of supervisors authorized an appropriation of $15,000.

Special committees to study the subject and report were appointed by the boards of supervisors of Orange, Oswego, Onondaga, Monroe, Cattaraugus, Cayuga and Schenectady. Such a hospital has recently been donated by ex-Governor Odell to the city of Newburgh,* and two citizens of Elmira have contributed a fully equipped hospital for patients from the city of Elmira and Chemung County.

The utility of the hospital in the eradication of tuberculosis has general recognition. Prof. Irving Fisher in his report on "National Vitality" to the National Conservation Commission states that the decrease of tuberculosis may be traced largely to hospital isolation. He cites Newsholme, chief medical officer of the Local Government Board of England, a leading authority in statistics, who showed that in nearly every instance those contagious diseases that have been brought under control were so controlled by hospital care of those having the disease. He also showed that those cities and countries having large hospital provision for tuberculosis have a rapidly falling death rate from that disease, while those having little hospital provision show little or no reduction in such mortality.

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* Read at the meeting of the First District Branch of the Medical Society of the State of New York, at Newburgh, October 27, 1910.

* The privileges of this hospital have since been extended to the County of Orange.

When it is remembered that the economic loss to the State of New York has been estimated at $70,000,000 per year the cost that will accrue in an effort to stem this loss in the manner that promises to be most effectual should not be prohibitive.

New York is not alone in legislation providing that the county may thus care for its tubercular patients. Ohio, Illinois, Iowa, Minnesota and Virginia have passed similar laws.

The style of building most suitable for the treatment of these cases, particularly the incipient, is, fortunately, inexpensive. Neither is the number of patients that will need be provided for at first large. Not all tubercular subjects require hospital care. Some others from prejudice would refuse it. Homer Folks has, by assuming that one-half the number dying each year would accept hospital care for one year, estimated that the number of beds required in any county would at the beginning be one-half the number of deaths from tuberculosis in that county the preceding year. Upon that basis the counties of this first district branch would require capacity as follows: Dutchess, 52 beds; Orange, 79 beds; Putnam, 9 beds; Rockland, 29; Westchester, 206. New York city, already having organized its sanitarium at Otisville, is not included in this list.

It has been further estimated that the initial cost of construction for such hospitals would be at a minimum rate of $500 for each patient, and maintenance at the rate of $1.25 per day per patient.

In this manner these further estimates may be made:

In Dutchess, for construction, $26,000; for yearly maintenance, $23,725.

In Orange, for construction, $39,500; for yearly maintenance, $36,000.

In Putnam, for construction, $4,500; for yearly maintenance, $4,100.

In Rockland, for construction, $14,500; for yearly maintenance, $13,200.

In Westchester, for construction, $103,000; for yearly maintenance, $94,000.

New York city has, with its annual mortality from tuberculosis of 9,000, 3,500 beds constructed or definitely planned for.

The site of an institution of this kind should be sufficiently removed from centers of population that the air should be free from smoke and dust, yet so readily accessible by railroad or trolley that the patients may be freely visited by their friends at not too great expense, and that supplies may readily be obtained. If possible, an altitude of twelve hundred to eighteen hundred feet should be secured. The soil should be sandy to absorb moisture, and a good water supply at hand. A southern exposure and protection from inclement winds, in this region the north and east, are desirable.

Sufficient acres of land should be secured, including woodland, in order that a range of movement and light occupation should be secured to the patients and as much as possible for the table supplied from the place. The disposal of sewage without contamination of watershed must be secured.

Two styles of building have been advanced for such purpose. Of these the lighter, more rude and cheaper seem better adapted to the conditions at hand. As Dr. King has expressed: "The simpler and cheaper construction and equipment make for smaller administrative expense, and consequently enable us to extend the benefits of the sanitarium to a greater number of patients at a smaller cost to the State."

While in New York State depreciation in farm values has not reached that in certain New England States, even here it not seldom happens that farms are sold for less than cost of buildings thereon. A commodious farmhouse with some alterations can be made to fill the requirements of a small sanitarium. A broad porch built upon three sides of the farmhouse may constitute the living and sleeping quarters of the incipient cases. The dining-room should be sufficiently large that incipient cases from a future lean-to that may be built may also be fed therein. This could answer also as an assembly hall. At the start one other large room might be used as a ward for advanced cases, and a small room set aside for an office. These with the kitchen would constitute the first floor. The second floor would be given to two dressing-rooms for incipient cases, bedrooms for nurses and servants and toilets. The laundry would be placed in cellar or basement.

This would at least be a nucleus for a hospital, and as the number of patients increased detached buildings erected on the one side for incipient, on the other for advanced cases.

Dr. Thomas Spees Carrington, in charge of the bureau of construction of the National Association for Study and Prevention of Tuberculosis, describes a type of lean-to suitable. One housing sixteen cases and divided in center by toilet, locker and sitting rooms finished suitable for incipient cases can be built for $2,500. The buildings are placed on brick piers, the open porches left without ceiling or other finish, protected only along the front by canvas curtains. A heating plant is unnecessary, but the toilet, dressing and sitting rooms should be heated by stove. The building for advanced cases is of the same type, with the same attractive shingling and staining of roof and side walls. It is built more substantially. The porches are inclosed with glass doors and windows during the winter. They are ceiled with plaster or close-fitting boards. A heating plant is required for the whole building, and a nurses' quarters, and diet kitchen arranged in addition in the center apartment. Constructed in this manner the cost is $5,000.

Personally I believe I should urge such an institution upon the county primarily for its edu-

cational effect. The majority of tubercular patients are grossly careless of the disposition of their sputa. After a period in a well-conducted sanitarium as a rule they return scrupulously careful in this respect. Then, too, they have learned much of the value of fresh air, of proper food, of when exercise may be indulged in, and when rest is required. Their friends also are instructed on these points and learn from observation at the sanitarium that under the precautions observed the attendants upon the sick are not infected, and thus the great alarm that threatens to take the place of indifference may be spared the patients' family and friends.

In the last stages of tuberculosis so great is the weakness of the subject that, however instructed, he again becomes a menace in the household, and as an asylum to such, and for the protection of the community is such an institution in the second place to be urged.

Its most attractive utility is, of course, in arresting the disease in its early stages, in the many cures in appropriate cases that follow the opportunity for life by night and day, winter and summer, in the open air, with sunlight, proper feeding, rest, and requisite medication. Here again beside to those directly treated, benefit would accrue to others in the way of education. Not the least of their enlightenment would be that very early in the disease is treatment desirable.

It was remarked by a visitor to the celebrated sanitarium at Falkenstein in the Black Forest that during the meal not a patient in the dining hall had coughed. "They are not permitted to," replied Dr. Detweiler, "in that event they would be served in their rooms." Yet as a corollary we may infer the selection of early cases. Where such selection can be made the effect upon the community after the initial scepticism has passed is to so instruct and forewarn that the disease in the individual may be met at its very inception.

EMBOLISM AND THROMBOSIS OF THE MESENTERIC VESSELS.*

By EDWARD C. THOMPSON, M.D.,
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THE purpose of this paper is to call the attention of this society to a subject of which little has been said, at least by American writers, and to add an interesting case to the comparatively few reported in the literature. I feel convinced that there are more cases of occlusion of the mesenteric vessels, than the reports would seem to indicate; and, in view of the seriousness of the condition, one in which only early diagnosis and surgical intervention offers hope for recovery, its importance has been rather neglected.

Virchow, in 1847, was the first to recognize and describe occlusion of the mesenteric vessels.

Litten, in 1875, was the next to call attention to the subject. After which Cohn, Cohnheim, Faber, Welch and Mall, Sprengel and Neiderstein, by a series of experimental work, gave us the pathological picture of the obstruction of the circulation in the mesenteric vessels. In 1904, Jackson, Porter and Quinby, collected 214 cases of embolism or thrombosis of the mesenteric vessels, and in a comprehensive article reviewed the cases reported in the literature together with a careful analysis of the physical signs and symptoms. Of these 214 cases only 47 were operated on with a mortality of 94 per cent.

Of the reported cases a large proportion have been due to embolism of the superior mesenteric artery, or some of its branches. The source of the embolism has usually been the heart; and valvular disease, atheroma and general arteriosclerosis have been concomitant conditions, so that the etiology of mesenteric embolism is identical with that of the co-existing endarteritis, viz., syphilis, alcohol, etc. Or, again, there may be a primary spontaneous closure of the mesenteric artery—a thrombosis; or, according to Litten, due at times to local changes in the vessels, or an obliterating endarteritis due to syphilis or alcohol. And finally, a few cases have been reported of spontaneous closure due to a traumatic thrombosis. Thrombosis of the mesenteric veins is a less frequent occurrence than embolism or thrombosis of the mesenteric arteries. It may be an ascending process or a descending one from preexisting conditions in the portal system. It is often metastatic, and due to co-existing infection in the abdominal cavity, viz., enteric fever, dysentery, ulceration of the intestinal mucous membrane, tubercular peritonitis, mesenteric adenitis, trauma post-operative thrombi and malignant disease, all of which have been antecedents of a mesenteric thrombosis.

The anatomy of mesenteric occlusion is very interesting and has been the subject of considerable experimental work and conflicting theories. Following the "anatomical end artery" theory of Cohnheim, the rich anastomosis of the superior mesenteric artery would seem to exclude the possibility of hemorrhagic infarction of the small intestine, as the result of occlusion of this vessel. Practically, however, in the living subject, this is just what often occurs, and the anomaly to the theory of Cohnheim, is explained by Litten and Faber, by showing that while the main mesenteric artery, anatomically is not an end artery, functionally it is. Whether the theory of Welch and Mall, that the primary congestion of blood in the small vessels is derived from the arteries, or the more accepted theory of Faber, that it is a reflux from the veins, is interesting, but practically immaterial. The

* Read at the annual meeting of the First District Branch of the Medical Society of the State of New York, at Newburgh, N. Y., October 27, 1910.

anatomical result of occlusion of the mesenteric artery or one of its main branches is usually hemorrhagic infarction of the intestine. That occlusion of the main artery or one of its main branches may occur without infarction has been proven from the reported cases. Neutra explains these exceptions by the long duration of the process before final occlusion occurred, or by a very rich anastomosis given time for a compensative collateral circulation.

Occlusion of the superior mesenteric artery is much more frequent than that of the inferior. The amount of the intestine involved in the former case depending on the sight of lesion. If the occlusion takes place in the main trunk of the artery the entire small intestines with the exception of a portion of the duodenum, together with the ascending and transverse colon may be involved. Where any one of the branches of the main vessel is involved the corresponding segment of intestine is the sight of the pathological lesion. From an analysis of the cases at my disposal, I find that the ileum has been most frequently involved. I would suggest that the greater frequency of the involvement of the ileum may have something to do with its lower degree of functional activity, depending upon its blood supply.

The jejunum is thick, muscular, with many valvulæ conniventes and large, straight vessels in its mesentery, indicative of a rich circulation. The ileum, on the other hand, is thin, with a few valvulæ conniventes, small, tortuous vessels, and a correspondingly poor circulation. Embolism or thrombosis of the inferior mesenteric artery—a rare occurrence—and thrombosis of the mesenteric veins give practically the same pathological picture as embolism or thrombosis of the superior mesenteric artery.

The anatomical appearance of the intestine and mesentery after occlusion of the vessels, varies from a simple hyperæmia to a complete hemorrhagic infarction. This variation depends, as we have seen, on the sight of the occlusion, its extent, and the balance afforded by the compensative circulation. If the infarction is complete, and lasts long enough the appearance of the intestine and mesentery is practically that of a moist gangrene. There is at first a hyperæmia of the parts, followed by statis, diapedesis, necrosis, gangrene, abscess formation, or peritonitis. The walls of the intestine are thickened, infiltrated with blood and present a mottled dark red or black appearance. The peritoneum is lustreless and covered with a fibrinous exudate, or after the access of pus germs, the sight of a purulent inflammation. The mesentery is infiltrated with blood and may be necrotic in patches. The glands are swollen and hemorrhagic, bacteria sooner or later find their entrance, usually the colon bacillus—and a purulent peritonitis is ingrafted on the local condition. More rarely an anemic infarction may occur, in which instance the border of the involved area may present the appearance of a hemorrhagic infiltration.

In this short paper I would but refer to the blocking of the minute arterioles in the intestines, by embolic or thromboic processes, resulting often in ulceration of the intestine.

The clinical course of occlusion of the superior mesenteric artery, or one of its main branches, may give either an acute or chronic symptom-complex. Some of the chronic cases as we would guess from a knowledge of the pathological findings, are those where the occlusion has been a gradual process, and where a compensative circulation has been slowly established. In some, the abdominal condition has been overshadowed by some other disease, which in reality has been the source of the occlusion of the mesenteric vessels. Again cases have been found on autopsy, which have shown a spontaneous recovery, such cases being, of course, only those where an incomplete infarction has occurred. In these cases the abdominal symptoms have been vague pains, or neuralgias with probably an intermittent course. The acute cases are the ones with which we are the most concerned, for here prompt diagnosis and surgical intervention offers some hope for recovery. The symptom-complex in these cases is not always the same, and the matter of diagnosis usually difficult. In one group of cases the symptoms of an acute obstruction predominate, and here, fortunately for the patient, the surgeon may get his opportunity. In another group of cases, diarrhœa, and hemorrhages from the bowels, and vomiting of blood are the most significant, and here the diagnosis is more liable to present difficulties.

The disease usually sets in suddenly, with rapidly progressive symptons, and evidences of an acute intra-abdominal condition of some type. The principal symptoms are pain, diarrhœa, with or without blood, and the objective symptoms which examination of the abdomen present together with often a sub-normal temperature, accelerated and weak pulse, and the facial expression which goes with shock. In order to make a diagnosis there is no one pathognomonic symptom. The whole picture must be carefully considered, and a diagnosis reached by a careful process of exclusion. The pain is usually sudden, severe and colicky in the beginning, which marks the time of the circulatory occlusion.

Later it may become dull or disappear altogether; it may be general or localized, or it may be absent altogether.

Nausea and vomiting usually start with or soon after the pain. The vomitus may consist of the contents of the stomach, duodenum of small intestine, and may contain blood.

Diarrhœa often begins soon after the pain, and may be severe with watery mucus or bloody stools. There may be constipation from the beginning. Hemorrhages from the bowels, has

been looked upon as one of the most important clinical symptoms. The hemorrhage may be profuse and usually consist of altered blood. With the hemorrhage there may be a sudden fall of temperatrue, weak running pulse and collapse, the symptoms of acute anemia.

Examination of the abdomen offers little of diagnostic value. There may be rigidity, distension or local or general tenderness. Sometimes a tumor may be made out. There may be free fluid in the abdominal cavity. If peritonitis has set in, its symptoms over-shadow those of the original condition.

Given the majority of the above-named symptoms, including either those of obstruction, or hemorrhage from the bowels, together with a known source of embolism, a possibility of mesenteric thrombosis or embolism, should be always in mind. Judging from the reports in the literature and from the anatomical condition and clinical course of the disease, it must be a very serious one. In the 214 cases collected by Jackson, Porter and Quinby, 47 had been operated upon, with a mortality of 92 per cent., only four having recovered. Elliott has resected the longest extent of gut for a mesenteric thrombosis, 48 inches, with recovery. So far as I have been able to discover the case which I will report comes next, with a resection of 40 inches, with recovery. Treatment other than operative seems almost too theoretical for consideration. Early operation gives some chance for recovery, but even here we can readily appreciate the fact that technical difficulties, in the way of knowing how much of the gut to resect as the extent of the infarction may be still undetermined. It is for this reason that Jackson, Porter and Quinby recommend not making an immediate anastomosis after resection, but "to bring the involved gut well out of the wound with a liberal sound margin left at either end, and after resection to fix the open end in the wound well walled off with pads." The individual case and judgment of the operator will probably determine this point. With the patient in good condition, a definite well-defined wedge-shaped area of infiltration pointing to occlusion of a single vessel, if a resection can be quickly done it would save the patient at least another operation, in itself very formidable.

Case.—Boy, 15, U. S., employed in knife works. Entered St. Luke's Hospital, Newburgh, June 4, 1910.

Previous History.—Measles, chicken-pox, health otherwise good, appetite good, bowels regular.

Family History.—Father died of gunshot wound, mother alive and in good health. One brother died in infancy.

Present Illness.—On May 30, 1910, while playing ball, patient sustained a serious blow in the stomach, severe enough to force him to stop the game for awhile. He felt perfectly well, however, afterward, and kept at his usual occupation till June 3d, four days later. That evening he ate ice cream, and peanut candy, and woke up at night with severe abdominal pains and nausea. Pain was severe with exacerbation and patient began to vomit. On the morning of June 4th, Dr. Russel T. Hadley, of Walden, was sent for. Dr. Hadley found the patient groaning with pain, slightly cyanotic, pulse rather feeble and accelerated. In view of the fact that the patient had eaten rather imprudently the night before, he was given some small doses of calomel, an ice bag applied to the stomach, and all nourishment stopped. The nausea and vomiting continued during the day, becoming rather foul odored. A hot soap-suds enema was given, with slight amount of gas, and a few small pieces of fecal matter resulting. The temperature during the day was slightly sub-normal. There were no hemorrhages from the bowels or mouth. Micturition was slightly painful. Towards evening the pain and vomiting ceased. On the evening of the same day, June 4th, was sent to St. Luke's Hospital, and the service of Dr. Townsend; rectal temperature, 98.4, respiration, 24, pulse, 84. During the night the patient was not nauseated but complained of pain on the right side, and had two very slight bowel movements, without odor or blood.

Physical Examination.—Patient a well nourished boy, heart, lungs, liver and spleen negative. No glandular enlargement, pulse 84 on admission to hospital, fairly good, toward the morning of June 5th gradually becoming more rapid. Respiration slightly accelerated. Abdomen slightly rigid and tender above and to the right of the pubis. On percussion no evidence of fluid, percussion note slightly tympanitic, facies somewhat drawn and pinched, indicative of shock. Urine analysis negative, blood test not made.

Operation.—Incision in the median line. On opening the abdomen a small quantity of serosanguinous fluid was found in the peritoneal cavity. Several coils of ileum were found, distended, deeply cyanosed almost black in color with a rather sharp line of demarcation at either extremity and covered with lustreless peritoneum. the mesentery was thickened, succulent, hemorrhagic in spots and on incision a small amount of dark blood exuded from the vessels. There was no evidence of bands or internal strangulation. The whole area was wedge-shaped with the apex near the root of the mesentery. I accomplished a resection of 40 inches of the infracted intestine, by end to end anastomosis with Murphy button. There was no extravasation of blood between the layers of the mesentery. The mucous membrane of the excised bowel was deeply cyanosed, but intact, with a small amount of extravasated blood in its lumen.

Subsequent History.—Patient returned to the ward. Temperature 98, respiration 24, pulse 140, in fairly good condition. For a few days after operation the temperature would occasionally reach 99.4, which was the maximum. The pulse remained rapid for a few days, but gradually by the end of the week, had come down to normal. The Murphy button was passed on the 17th day. The patient soon after left the hospital in good condition and has been well since, excepting for a slight tendency to diarrhœa which has almost adjusted itself. I would explain this symptom on the assumption that after the removal of so considerable a portion of the intestine the area for the absorption of liquids had been materially diminished. Fortunately, in this case there was no need for autopsy, but I believe from the above description and history a diagnosis of thrombosis of a branch of the superior mesenteric artery, due to trauma, may be made beyond doubt. The age of the boy, the exclusion of any known source for embolism, the acute onset of the symptoms, following trauma, the definite wedge-shaped area of infarction, the non-pulsating arteries, and the condition of the veins, all substantiate this diagnosis.

FUNCTIONAL ALBUMINURIA.*

By I. O. NELLIS, M.D.,
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PROBABLY the importance of making a differential diagnosis as between the different species of functional albuminuria, namely, Dietetic, Malassimilative, Uric Acid, Severe Exercise and true Albuminuria, or Contracted Kidney cannot be overestimated.

In dietetic albuminuria albumen is found in the urine only after certain articles of diet are injested, such as cheese, eggs, etc., and therefore it is not constantly present, but occurs at special periods, say, after dinner or supper and can only follow after taking food, and, as a rule, appears very promptly and is attended by no other symptom of disease. A very important factor to remember in making a diagnosis is that albumen is never found in the urine before breakfast and that the nervous system is never disturbed, as in other forms of kidney trouble.

The S.G. of the urine is high, and this condition seems to be invariable in these cases, and in fact a high S.G. in any urine is good evidence that it is not from a case of true albuminuria, except in those advanced cases where the solids are diminished, but it is more than offset by the decrease in water, which increases the S.G., and again it very frequently happens that high S.G. is associated with harmless albuminuria.

Again, the absence of albumen in the early morning urine in dietetic albuminuria becomes a matter of great importance both in examinations for life insurance and civil service examinations.

A case to illustrate: A young man aged 19 presented himself for examination for life insurance at 2 P. M. Urine voided in my presence. Reaction highly acid. S.G. 1026. Albumen, yes. Sugar, no. Dinner, cheese sandwich and glass of beer. Repeated the examination the next day at 9 A. M., same result. Breakfast, eggs, toast and coffee. Next day had urine voided first thing in the morning. Reaction acid. S.G. 1020. Albumen none. Sugar none. Second trial, same result. Here was a case of true dietetic albuminuria. due, in our opinion, to the plasma of the blood becoming nearly acid, thereby allowing it to pass through the membrane of the kidney, carrying its albumen with it, for it has been shown that in order that the blood is to be retained within the arterial walls it must be alkaline in a high degree.

Dr. Pavy, of London, cites a case occurring in his practice, when a young man seeking a position in the English civil service was rejected on the ground of the presence of albumen in the urine. His medical adviser thought of the possibility of dietetic albuminuria, and found that his urine passed on rising in the morning was perfectly normal in its constituents. This applies in this country with great force to candidates for life insurance.

The albuminuria of severe exercise is similar to the dietetic form, but differs from it in the fact that it occurs only after strenuous excitation, the digestive and nervous systems not being disturbed. Here, again, we have the alkalinity of the blood decreased, thereby allowing the blood plasma to readily ooze through the arterial walls, resulting in transient albuminuria.

It is difficult to distinguish between dietetic albuminuria and that form due to malassimilation. In that form of albuminuria due to or resulting from excessive uric acid formation we have the following train of symptoms: There is indisposition to mental or physical exertion; great anxiety about condition; bladder irritable; albumen is found in the urine, frequently being most marked in the afternoon evacuations; epithelial casts are occasionally found; urine is acid in reaction, with a S.G. rarely below 1020, and often deposits quantities of "brick dust." This form of albuminuria may be so marked as to be mistaken for true Bright's disease, particularly when bodily waste, fatigue, headache and vertigo are associated. But the cardiac lesions of Bright's are absent, as also are the eye lesions and dropsy, and the actual character of the urine is most significant, and in making a differential diagnosis we are to be governed first of all by a urine having a high S.G., but being normal in amount or possibly lessened; the S.G. generally ranging from 1020 to 1030, but it has persisted at a higher degree. Urine on standing deposits urates, and somtimes uric acid, and frequently mucus. Sometimes in the deposits, instead of the urates, we

* Read at the annual meeting of the Fifth District Branch of the Medical Society of the State of New York, at Syracuse, October 19, 1910.

find crystals of oxalate of calcium. Uric acid does not of necessity show itself in urates, and from this fact it is best to chemically treat for it. The solids are increased. Salts normal. Chlorides increased and not diminished as in Bright's. Phosphates normal or increased. Urea not deficient.

Now as to the amount of albumen in these cases of uric acid excess, we find the amount generally small, but it varies with the time of day. It is generally more frequent after breakfast, and it is at times absent, especially in the evening urine. But here, as in other cases of so-called intermittent albuminuria, there is this fallacy—the albumen is not absent really but only greatly diminished. A fine test, such as the use of acetic acid to acidulate the urine, and then the use of Tanret's test, may bring it out; casts are scanty or absent; in character they are hyaline or epithelial; rarely granular, never fatty.

The great trouble in diagnosis of these cases of uric acid albuminuria is from cases of contracted kidney with obscure beginnings, where the amount of albumen is extremely small and at first intermittent. But even here we have the low S.G. of urine of contracted kidney to guide us; and the crippled organ does not pass off abundantly urea, urates or oxalates; with contracted kidney once established there is no trouble—the heart symptoms and the retinal changes are too significant.

The pathological condition which gives rise to the albumen of uric acid and oxaluria is essentially a congestion of the kidney, with slight local inflammatory changes in the vascular cortex from the irritating effects of recent amounts of ill-formed or broken down tissue in the form of urates, urea, or these imperfectly oxidized oxalates. In other terms, the kidneys are not the primary cause of the trouble, but simply the kidneys suffer because they are compelled to throw off irritating waste products. Anything that lowers vitality and disturbs the nervous system may increase the faculty of assimilation, and with it the irritation and congestion which produces the albuminuria.

The question whether this variety of albuminuria passes into the true organic affection of the kidneys is of serious importance. It is possible, of course, but considering the force of the irritating agent, it is far rarer in occurrence than would be supposed at first thought. When this does happen, it is brought about by constant irritation, leading to slow fibroid changes, and gradually developing interstitial nephritis.

When we reach the important question of treatment of these forms of albuminuria we must bear in mind that we are dealing with a special disease, one in which malassimilation is the main element and the kidney affection only a conspicuous expression. The treatment must not be, therefore, purely that of Bright's disease as we meet it commonly, but largely that of the underlying state, a condition with which we are chiefly familiar, as lithemia or as oxaluria. The lines of treatment are, it is true, largely parallel. Thus it is just as essential in this form of albuminuria as in ordinary forms of Bright's disease to lessen the work of the kidneys by calling the various emunctories into play. In fact, it is more essential, for the kidneys have not only their usual work, but largely more than their share of work thrown upon them, and this extra work leads to damage. Their labor can be much lessened, and the blood conditions and the character of the excretions altered by close attention to diet, which is, in the main, almost the treatment of Bright's disease, although it is stricter as regards the ordinary carbohydrates, and, on the other hand, does not insist so much on milk.

Vegetables, especially the green vegetables and fruits, are freely allowed; coffee and cocoa are sanctioned if sweetened but slightly; so are small quantities of oatmeal, corn cakes, rice, bread and butter; also oysters and fish. The white meat of poultry and game can be eaten with moderation, but the meats containing much nitrogen, such as mutton and beef, are to be avoided. I find, however, that where the patient indulges in considerable exercise, especially in young men, that meats may be eaten in careful amounts without damage. Milk is especially useful in these cases; in fact, there are a number of cases on record where a strict vegetable diet effected permanent cures after an exclusive milk diet had left the urine albuminous. Eggs may not be forbidden, but should be given in moderation, and the yellow portion alone eaten. It is well to be strict as to sugars, for most commonly they aggravate the symptoms; hence beets and rhubarb should be forbidden. Salt, however, should be freely taken. It is important to keep the kidneys flushed, hence the free use of pure water, plain or aerated, and the mild diuretic waters, such as Poland, Saratoga Vichy, is always of service.

Drinking hot water at bedtime has often a most happy diuretic effect, which makes it doubly serviceable, for uric acid is largely excreted during the morning hours. Alcoholic drinks should be avoided, or, if used, restricted to light non-acid wines. No beer should be used.

The use of baths, not too cold, followed by systematic skin friction, is indicated, and the value of exercise in the open air is excellently shown in many cases. Cold douches to the spine are recommended by some observers.

Among medicines, laxatives are very important: Rochelle salts, cream of tartar, phosphate of sodium. Mercury before the saline is often of excellent effect. So is iron, especially tartrate of iron and potassium. Nitro-muriatic acid in oxaluria is a standby, and is recommended in uric acid cases. The heart must not be forgotten, for the poorly oxidized elements circulating in the blood and the irregularity it exhibits may have to be met by digitalis, cactus or strychnia.

As to prognosis, it is, as a rule, favorable when

we can make the treatment effective. Thus we have a form of albuminuria which has been rescued from the list of Bright's disease. It teaches us that in the examination of urine it is not sufficient to make simply the ordinary tests for albumen, but the investigation must be pushed further. If the urine is examined in a routine way the patient is often condemned by the apparent condition of his urine when it is wholly unjustified.

IODINE DISINFECTION OF WOUNDS.*

By CHARLES F. NIEDER, M.D.,
GENEVA, N. Y.

DURING the past seven years I have used tincture of iodine almost exclusively in disinfecting minor wounds, and have found it so satisfactory after using it in hundreds of cases that I feel my experience may be of some benefit to others.

Tincture of iodine was used to prevent infection of slight abrasions on my own hands when handling infectious cases, and it was noted that such small abrasions healed very quickly after the application of the iodine. The inflammatory reaction which would sometimes occur was almost invariably prevented. The iodine was then used in treating nearly all minor wounds. The following cases are cited out of many:

Case 1.—Boy who had stepped on a rusty nail two days previously, puncturing the ball of the foot through to the skin on top. The foot was very badly swollen and very painful, the wound being infected. A small incision was made through the skin on the back of the foot and the small ear curette passed entirely through the wound, cleaning out particles of dirt. A very narrow strip of gauze was twisted, dipped in tincture of iodine and passed through the wound. On the following day the pain and swelling were gone. The gauze was left in another day when it was removed and recovery was rapid.

Case 2.—Boy who had the palm of the hand badly lacerated by a blank cartridge. The wound was cleaned out, pieces of wadding being removed from between and even behind the metacarpal bones. The wound was swabbed out with iodine. An immunizing dose of tetanus antitoxin was given in this case. There was rapid recovery, with no sign of infection.

Case 3.—Man with bullet wound through the thickest part of the hand, caused by the accidental discharge of his revolver while cleaning it. Particles of skin were removed from the wound at the point of entrance; then a narrow strip of gauze saturated with iodine was passed through between the metacarpals from the point of exit and allowed to remain two days, when it was drawn part way through, allowing the wound of exit to close, and on the following day removed entirely. The patient returned to work five days after the accident.

Case 4.—Bullet wound of hand which had been treated for three weeks, being irrigated with peroxide and packed with gauze. It was then discharging pus freely from both entrance and exit. It was swabbed out with tincture of iodine, followed by rapid disappearance of the pus and healed promptly.

Care must be used in applying iodine to large wounds as it would be possible to get sufficient absorption to cause poisoning. The chief objection to the use of iodine is the sharp burning sensation when it is applied, but this lasts only a short time. Another objection is that the patient knows what you are using, but this applies to bichloride, carbolic acid and hydrogen peroxide. The fact that during the past four years the use of iodine has become almost universal in preparing the skin for major operations—and its efficiency for this purpose is practically unquestioned—is pretty good evidence of its prompt action as a disinfectant.

What I wish to do in this brief paper is to call to the mind of the general practitioner the fact that the use of iodine is not to be restricted to its use after curettement of the uterus, a practice which has been common for many years, but that it is the best disinfectant in minor wounds to be had, and that disinfection of a wound can be more readily effected by swabbing with iodine than with solutions of bichloride or carbolic acid, and so far as healing is concerned, it is more prompt than after either of the others.

Puncture wounds caused by nails, etc., should be treated by enlarging the opening through the skin, cleaning out the wound with a small ear curette and introducing a narrow strip of gauze which has been twisted and dipped in iodine, allowing the gauze to remain two or three days. All through-and-through bullet wounds of the extremities, where the course of the missile can be followed with a probe, should be treated by passing a narrow strip of gauze saturated with iodine and allowing this to remain two to four days.

In treating wounds requiring sutures, the skin along the edges of the wound is painted with iodine, thereby preventing stitch abscesses.

My experience leads me to believe that iodine will soon displace all other antiseptics used in disinfecting wounds.

* Read at the meeting of the Seventh District Branch of the Medical Society of the State of New York, at Geneva, N. Y., September 15, 1910.

THE REWARDS OF THE OBSCURE PHYSICIAN.*

By M. J. SANFORD, M.D.,
SUFFERN, N. Y.

Introduction.

IN meetings of this kind physicians are constantly studying to benefit others. Duties of the physician and diseases of the public are the prevailing topics of discussion. Duties to the

* Read at the annual meeting of the First District Branch of the Medical Society of the State of New York, at Newburgh, N. Y., October 27, 1910.

patient, duties to the state, duties to the nation, duties *ad libitum*. Diseases of the lungs, diseases without symptoms, diseases in treatment, diseases *ad infinitum*. Why not mix in an occasional paper on duties of the community or diseases of the physician?

Altruistic subjects are certainly right, proper and consistent with our business; but would it not be pardonable to call a brief halt in this persistent squabble with ethics, Americanitis, bugology and opsinology and to indulge in a few purely selfish ideas? Surely, one of the values of these gatherings is diversion. Why not indulge at times, then, in a little mutual sympathization and congratulation?

To what end is this great army of physicians plodding, grinding and struggling? For what is the doctor sacrificing his leisure, his privacy, his life? What rewards him for such an irregular, strenuous life? How is this reward bestowed?

Business.

Some get rich. These, however, are few. At any rate, they are few in Rockland County. As business men, M.D.s are, generally speaking, ignominious failures. They charge according to their idea of the patient's pocketbook. In some localities the ordinary price for a two-mile trip at dead of night in a hard winter storm is the same as for a trip of one block on the fairest day in June. A Rocklandite delights to tell how he was aroused one night to visit a family several miles away. Naturally, he asked the man to ride with him. Arriving at the home, he found no one sick but received his fee. "I came in on the late train," said the man, "and I knew a liveryman would charge a dollar more than you." Similar business (?) methods are responsible for the wholesale abuse of hospitals and other charitable institutions. Thousands of well-to-do people are daily receiving their professional services gratis by merely declaring themselves indigent. These services often include not only hospital care but expert treatment also.

A physician's accounts are seldom kept in an up-to-date, business-like manner. He considers seventy-five per cent. good collecting. Some never reckon the per cent. collected nor the total business. If he accumulates a few hundred, the probability is that he will invest it in Alaska. He apparently believes that others can handle his money better than he. This is doubtless true; but he seems to prefer trusting it to strangers, especially if they are thousands of miles away. No, business is not his strong point, nor wealth the average physician's reward. There is some commercialism in the profession. The so-called "merchant doctor" is sometimes seen, but he is not a physician. He is a mixed breed. He is a cross between a miser and a fakir. His methods are obnoxious to the physician. The name "merchant doctor" is a misnomer. There is no doctor blood in him.

History.

Some physicians become great. But these are more rare than the wealthy. Medical history mentions but few great men. It gives a wrong impression of these. The historian is constantly twining garlands for remarkable characters, erecting thrones for the distinguished, sculpturing and painting innovators, while the rank and file are little noticed. Since the dawn of medicine great things have been done. This work was made still greater by ancient, outside opposition. But medicine never sprang by a few leaps into its present adult condition. It required something more than a few inventions each century to perpetuate its growth. The present status of surgery is indebted to something more than a few discoveries. The historic characters have all been great minds. Their works seem almost indispensable. Their reward—no matter how great—was too small. But we are too liable to regard these as the only intellects of their age. Hippocrates, Galen, Vesalius, Harvey—all great men. It is beyond our power to honor these names too much. In history each stands almost alone in his respective century. Each represents an epoch in the development of medicine. But in fact each had colleagues. Had it not been for these colleagues we would hear less of Galen and medicine in the second century. Even Father Hippocrates had help. History credits Vesalius with originating human dissection, but his associates had long recognized the demand for this work. Some human bodies had previously been dissected in secret. Harvey did not originate the idea that the blood circulated. He proved it. His colleagues had believed it for years. And so all down through history we find great minds working out great truths from known or believed data. An unknown element observes, thinks and finally convinces the profession that tuberculosis is a specific disease. A Koch proves it. An unknown element originates the idea that blood serum has a germicidal action. He tests it. Physicians generally use the principle advantageously. A Bier appears. Hyperemia is invented. These great men lived at a time when their respective work was imminent. Their success depended largely on their ability to adapt known principles to new purposes. They dealt largely with well established facts or beliefs. And these facts and beliefs were little, if any, less important than the principle established from them. The discovery of the circulation of the blood was not the work of one man, but of thousands of hard-working, self-denying, unknown men. Shoulder to shoulder this tireless band braved the dangers of persecution; spent sleepless weeks trying to prove their conviction, and suffered disappointment, and, what was supposed at the time, to be defeat. Each thus added his mite to the great work. When Harvey completed the task, each breathed the breath of a conqueror. Each cheered the name Harvey, for it stood for

his own victory. Each was thus rewarded and no one knew it.

Growth.

And to what would the proof have amounted had it not been for this unknown element? The birth of one of these discoveries is always welcomed by a grateful army of colleagues who boom it as their own. Truth is always welcome to an Esculapian. Its acceptance was never trammeled. This is one of the physician's most marked characteristics. And so with renewed vigor the new principle is elaborated, utilized and practiced and its proven merits distributed broadcast. This is the best test of the true doctor. It distinguishes him from the commercial world. Commerce is after wealth and will exact it at any cost to the public. The doctor is after health and will get it at any cost to himself. Commerce uses secrecy, patents and copyrights. A new improvement is, to the doctor, occasion for a new book or a new subject of discussion at a medical meeting. The aims and methods of the two are diametrically opposite. The benefit of this professional co-operation can easily be understood. Without it, each advancement would have had a limited use and would have suffered an early death. Pasteur would have died and the mortality from hydrophobia would have been unchanged. Consider the field that was opened by the pathological germ theory. The suggestion was grasped and its principles are still elaborating. Lenwenhock himself, if living to-day, would fear to father this matter as now taught. He touched the right button, and the medical world has since honored his name for it. But the machinery has run ever since. Several names have become historic in its elaboration, but these represent but a small part of this work. The unknown has again answered a demand. Throughout history this silent, thoughtful, unassuming band has exerted its powerful but unrecognized influence. Throughout Christendom to-day the offsprings of this band are exerting a similar power. They do not court notoriety, but in their persistent way they are not only establishing the health, morals and longevity of the community, but also the health, morals and longevity of millions yet unborn. Enslaved as he is to his conscience, the doctor sees no aim but health. Truth is the chief object of his devotion; survival of truth, his chief reward.

Without the so-called great, medicine would have advanced more slowly, but similarly achievements would eventually have resulted. Without their unrecognized associates our science would still be in the hands of charlatans. It is high time that, while idolizing the innovator, a stray thought be directed toward the ordinary physician who is doing ordinary duties and is meeting ordinary responsibilities.

Great To-day.

There is a multitude of great doctors to-day. History will preserve some of their names as representatives of this age. Who will be the lucky ones no one now knows. At least no few now tower conspicuously above all others. This has always been so. All these are well rewarded, but what about the forgotten, the unheralded, the unknown? Their work is not exceptional. Their mortality rate not far below the average. Their fees not large; their patients not all of the best class. One of these men could not step into Dr. Hirst's environment and equipment and become a Hirst. Neither could Dr. Hirst step into the environment of this other and equal him unequipped. This ordinary man cannot show extraordinary results with any equipment. But in emergencies, where something must be done with nothing to do with, our unknown friend is right at home. How to make the most of what happens to be at hand has been his great study. He has learned it perfectly. He is not the man to remove the Gasserian ganglion nor to diagnose the rarest disease. He is just an ordinary man. His envy of others does not bother him. He is happy in his way. He performs the threefold duty of physician, chauffeur and nurse. He appears cheerful and polite whether debtors pay or don't pay; whether called by day or by night; whether the patient recovers or gets another doctor. By planning and economizing a little he makes his income pay his honest bills and his garage bills. If an Osler comes to town he listens with admiration and joins the wild plaudit, little realizing that he himself does work every week that is as imperative to humanity and that deserves as much admiration as the skill that distinguished the name of the other.

Praise Dr. Murphy all you wish, but remember that about him is an obscure staff of capable, careful internes, pathologists and assistants who are largely, and sometimes chiefly, responsible for his success.

How are these men rewarded? Dr. Murphy never conquers a disease without a partner in the honor. The recovered patient is indebted not only to Dr. Murphy but also, unconsciously, to others of whose work and existence he has never dreamed. Rochester, Minn. has an admirable corps of such assistants. Fame has never known them. The sick are healed. The lame walk. People call it Mayo. These assistants are giving the best of skilled efforts to enhance the value of a Mayo. Their reward is the success of these efforts. It is something substantial and real. A selfish person never enjoys such reward.

Cost.

Doctoring is a serious business. From first to last the work is most strenuous. In medicine the college entrance requirements are highest; the college course, hardest; the probation term, longest; the practice, most exhausting; the responsibility, heaviest. In no business are rest, recreation and study so imperative, and no business affords so little of them. Suffering humanity respects no leisure or privacy for the

physician. No matter how imperative the diversion, the afflicted public is constantly clamoring its interruption. His own home is the doctor's poorest retreat.

To the physician is intrusted much and of him much is expected. Life is the most important thing and health a close second. All come to the physician for health. His work is a fight with death. It is a conservation of the world's most valuable resources. Death is always victorious at last, but the physician postpones and diverts his attacks and exacts the best possible terms. The environment of the physician is the most depressing possible. An atmosphere of pain and sorrow constantly surrounds him. "How can you bear to see so much suffering?" asks the mother. "I like to see them get well," answers the doctor. That was his reward.

Effects.

Medicine works a radical change in one's attitude toward the community. In college the human body has become a mechanism that is governed to an extent by the same laws that control inanimate machinery. Practice reveals the inner life of this machine. Necessity entrusts to the physician the profoundest secrets of this machine—man. And the more he studies man the more the doctor becomes, in a sense, differentiated from him. The community do not—they cannot understand their physician. He lives among them, but is to an extent distinct from them. He knows them, for that is his business. The public knows them clothed. The physician must know the exposed character. He knows their tastes. He knows their habits. He knows the motives prompting some of their most subtle plans. Man seems more artificial and elusive than of old. He seems less sincere, and so this knowledge of mankind has unconsciously produced a distinct difference between the man and his preserver. The former social equality and harmony have been disturbed. The doctor has come to enjoy most a class of subjects and a freedom of expression that are distasteful, or at least not appreciated by the public. A joke or a bit of his innocent humor is often met with that familiar look of non-comprehension or perhaps disgust. Medicine has disqualified him somewhat as a social being. But, while thus disqualifying him, it has qualified him in other ways. He is now a better judge of character. His basis for judging merit is now broader, more intelligent and more charitable. His sympathy now responds to a different and truer set of stimuli. His list of the community's worthy is different from anyone else's list. He is the community's most liberal giver. Physicians as a body are the world's greatest philanthropists. They give not to be seen of men. Tithes are no measure of their giving. The church cannot understand their benevolence. They do their own work. They make their own terms. They receipt their own bills. They receive their own reward. Some people wonder how the physician maintains his local influence. Some do not.

The doctor has gained one other valuable qualification. He may have partially isolated himself from his daily environment, but he has gained the fellowship of his profession. He may hunger daily for more congenial associates, but this tends to enhance the relish when he meets them. The social freedom of an exclusively medical bunch is unique. No other society meets with such genuine cordiality. No others are so free from veneer. No undertaking yields so much recreation to the hour, to the quart or to the mile as does an ideal gathering of medics. Here is realized that freedom to do, say and feel for which the doctor starved. Here all understand each other. Here the shackles of restraint fall off. The artificial and superfluous are here reduced to a minimum. Its appreciation requires medical experience, but here all are qualified. This is not the least of the physician's reward.

Acknowledgment.

Doctors have their selfish side. Malice, greed and envy pervade our ranks the same as though we were human beings. But somehow I think that, when at last we are justly judged, actual accomplishments will weigh most and that these petty difficulties, so annoying now, will receive less attention than we expect.

Power.

The predestined object of the physician is work. Results in the past reflect only credit. Our science has developed from chaos. A few centuries ago the physician was in disrepute. Persecution, banishment and execution were his reward. To-day he is a privileged character. He is nowhere excluded. He can turn a city into a desert or a desert into a city. He can keep any ship out of any port. He can stop a mail-ship in mid-ocean while he operates. He has official rank in the army. He made a war into the tropics possible for the United States. He has made a Panama Canal a possibility. The world has been compelled to recognize his merits.

Co-ordination.

In this work all classes of the profession have participated, but the brunt—the hardest part—has been done by the unpretentious. Medicine is a system of duties infinitely varied in kind, and one kind is as indispensable as another. There must be a surgeon to cut, a pathologist to diagnose and a physician to prescribe or our structure falls. There must be the investigator to discover, the author to instruct and the practitioner to execute or our chain lacks a link. On the platform of independence the innovator stands uncrowned by the side of his humble assistant and wealth and pomp flaunt no titles and claim no privileges.

Conclusion.

Ours is the noblest calling on earth and, although fraught with keenest objectionable features, the reward is adequate. Its work taxes mind and body alike. No genuine physician ever rusts out. The wear and tear incident to his duties produce early results. He is usually short-lived. The nature of his work is such that in it the indolent and careless starve, the ignorant tremble and the crook is kept dodging. To the selfish, the narrow, the stubborn, the work is obnoxious or unendurable; the reward, negative. To appreciate a physician's reward presupposes a broad mind and a self-sacrificing nature.

There are thousands of good, earnest, unassuming doctors working along in an honest, matter-of-fact way, meeting every day duties and perplexities in a capable, conscientious manner. Enslaved as they are to their profession, they are oblivious to everything save its interests. Thoughts of fame, glory or wealth never divert them. Their keenest satisfaction is in the thought that pain has been stopped or a life prolonged. With a clear conscience, these are adding a large share to the advancement of humanity and medicine. Their reward is the reward of the unselfish. It is a reward that neither moth nor rust nor man can corrupt—a reward that cannot be stolen.

THE MEDICAL PROFESSION MUST CHANGE ITS TACTICS.

By WILLIAM J. ROBINSON, M.D.,
NEW YORK, N. Y.

He who is not a frequent visitor to radical clubs, does not come in contact with newspaper men, with New Thoughters, and does not read regularly the numerous naturopathic, health culture and physical culture journals, and other alleged advanced publications, can have no idea how the medical profession is ridiculed, how it is maligned, how it is lied about, how it is misrepresented, how it is "knocked" on every possible occasion.

We are pictured as ignoramuses, grafters, butchers, anxious to operate whether there is a necessity or not, drug dopers, etc., etc. We are denounced as a trust, monopoly and any attempt of ours to organize, to pass laws protecting the public health is characterized as an attempt at class legislation, a desire for special privileges, inspired by our fear of the competition, by our fear of the superior skill of our irregular rivals.

And the average physician who has not given the matter any thought, has no idea what effect these unceasing slanders and persistent lies have on the public mind, how suspiciously a large part of the public is beginning to look at the medical profession, how we are losing the confidence of the people, how the ground is slipping from under our feet.

As an illustration we need only mention the reception that has been accorded to the suggestion of a Federal Department of Health. The motives that actuate us and the objects of such a department were at once misrepresented, the people were made to believe that their freedom to choose a medical adviser was threatened, the forces of reaction and obscurantism, masquerading in some instances under the guise of liberalism, were quickly marshalled and in a short time a society was organized which now claims a membership or 150,000.

We, physicians, are ourselves to blame. When the irregular, fantastic and pernicious cults began to make their appearance, we paid no attention to them. We thought they amounted to nothing, and would soon dry up and shrivel away of themselves. When the malicious attacks began to appear in the various quack publications, we remained silent. We considered it *infra dignitatem* to pay attention to them, and we thought that the public would have no difficulty in seeing through their falsity and meretriciousness.

Our long and patient inactivity has been due to the false idea that truth will always triumph and error is bound to die. Yes, eventually. But if error is allowed to grow and spread unhampered, while those who see the truth will not take the trouble to proclaim it and expose the error, then it may take centuries before the correctness of the truth and the falsity of the error, will be perceived.

In this as in every other line of human activity prevention is immeasurably superior to cure, and the right way to fight error is not to permit it to get a firm foothold. Error and superstition are hard things to uproot after they have attained the dignity of a universal belief.

It is time that the medical profession change its tactics and assume a wideawake, militant attitude. It is time that we actively attack error wherever it shows its head. By reading papers before lay audiences, by participating in discussions, by writing to the newspapers, by refuting the false arguments of the false prophets wherever they appear, we can do much toward destroying the influence of the quacks and the irregular cults. In short, we must throw off our exclusiveness, we must go out to the public and take it into our confidence.

The truth is with us—that we know; only we must not hide it under a bushel, and expect that its light will, without any effort on our part, penetrate into the darkest recesses of ignorance and quackery.

PRESIDENT'S ADDRESS.*

By FRANK DeWITT REESE, M.D.
CORTLAND, N. Y.

BEFORE entering upon the subject which I am to discuss, I wish to thank the society for the honor you have conferred upon me, in choosing me to be your presiding officer.

I wish to acknowledge at this time, my obligation to the ten county presidents of this district branch, for the interest they have taken in getting a large attendance at this meeting, also to the members who are to read papers and to Dr. Fudge, our secretary, for his willing co-operation in forwarding the work of the society. Our distinguished guests, who have come long distances, and who will add materially to the impetus of scientific medicine in this locality, I assure you, in behalf of the physicians present, that we appreciate the great sacrifice you were obliged to make, to honor us with your presence to-day.

I wish to offer some suggestions, that will, I think, if carried out, advance the interests of the Sixth District Branch meetings, therefore I have taken for the subject of my paper, "The Sixth District Branch."

The Branch meetings are a legacy handed over from the New York State Medical Association, and seem to have a valuable place in the hearts and minds of the rural physicians, or the meetings would have succumbed to neglect ere this.

The question must ever arise before us, are we living or existing, as a society, for any special purpose, and if so are we accomplishing that purpose?

It seems to me that the work of the Branch should be, to encourage better and more accurate work among the physicians, and to stimulate a desire in them, to make observations and to report anything that they have created in their work. Original investigation and creative thought, even though not based on a large number of cases, should be welcomed and encouraged by this society.

Some of the most valuable discoveries in medicine and surgery have been made by the general practitioner.

Lænnec was a general practitioner but he discovered the value of auscultation.

Jenner, who has done much for humanity in stamping out smallpox, was a general practitioner.

Vaughan, who has written so well on cellular toxins, and placed before the profession theories, in regard to cause and cure of diseases, that are workable, is a general practitioner.

Cabot, whom we love to honor because of his work and writings on the clinical examinations of the blood, is a general practitioner, and Fitz, who gave to the world the results of his observations on appendicitis was a man who had, at first, very limited opportunities for observation.

If time was at my command, I could call to your mind the names of scores of men who had but limited practice, who have been placed on the highest pinnacle of medical honor. Why does that concern us?

Only that it will, or should, encourage or set at work, those who may have discovered some new diagnostic symptom of a disease or applied some new remedy or device to a dozen or more cases successfully.

Such men we should help and through this branch work they could be introduced into circles where there is a higher degree of scientific attainment.

We are quite apt to discourage the man who has a vision of something new, that he has based on a few cases that have fallen to his lot. This new idea may have caused him more genuine, hard, mental exertion in classifying symptoms and determining a satisfactory diagnosis, in these somewhat unusual troubles, than it would cause a laboratory statistician to analyze and classify the symptoms of a thousand cases that have been entrusted to innumerable assistants.

Please tell me why the general practitioner or the country surgeon cannot be just as accurate as any other man, and his conclusions be just as conclusive?

This society should encourage the man who has a "vision," and who is willing to come to this meeting and place before us the results of his hard and painstaking work.

The members of the Sixth District Branch can become great factors in determining the causes of disease in our district, and in pointing out the treatment, whether medical or surgical. There is every reason why a general practitioner should be a progressive physician, and why he should appreciate a fact, even though it is of the unusual.

This society should organize in such a way that it will preserve in the minds of its members the "curiosity of childhood." To probe into and ferret out, should be part of every physician's work. To court difficult tasks and make ourselves indispensable to our county and state, should be our motto. Why should not the members know all that is to be known about poliomyelitis, vaccine therapy experimentally, or discover the cause of tumors, both malignant and benign, or pry into the matters that have to do with the discovery of the functions of some of the ductless glands?

Every man should be allowed to have a broad grasp of some subject, and we should not try to freeze out his ambition and desires for original work, by slight and the cold shoulder, as the photographer pencils the moles and wrinkles off his negative.

* Read at the annual meeting of the Sixth District Branch, at Cortland, N. Y., September 27, 1910.

Facilities should be offered the man, who wishes to know, so he can pursue the bent of his worthy scientific inclinations. The physicians in this district should be interested in all matters pertaining to public health.

The physician of the future, in order to serve his constituents well, must be interested in preventive medicine, in public and personal hygiene.

The commercial side of medicine must be somewhat eliminated, and faith to believe that the "laborer is worthy of his hire" must possess the soul.

No one can do his best work with the dollars foremost in his thought.

Sometimes it takes backbone to advocate measures in the face and eyes of public sentiment, but if one knows a thing is so, because he does know it to be so, and also knows that if it is adopted by the public it will be for the public good, he can afford to stand by his knowledge of things, and fight the battle royal for the supremacy of the right of knowledge over ignorance.

We should ever seek to raise the standard of medical education and fully co-operate with all the projects put forth by our parent societies to attain this end.

Labor laws and laws governing sanitation, should be fully investigated by all our members.

Our representatives in the legislature, supervisors' boards, and common councils should be apprised of the existence of such laws if they do exist, and if they do not exist should be impressed with the need of having such laws created.

Farm hygiene should be one of the many subjects in which our Branch is interested.

The farm continues to give us many cases of typhoid fever, scarlet fever, measles, diphtheria, tuberculosis, etc., which are usually due to unsanitary surroundings. We should make war on flies in the farm houses, and the use of or necessity for screened doors and windows should be more loudly emphasized.

The cement vault should be advocated, good kitchen drains should be required in every house, and the close proximity of the well to the cesspool should be prohibited.

From our district the best of milk should be sent to our cities because this society has brought about a sanitary condition, through public sentiment, that precludes the shipment of contaminated milk from our ten counties.

Any flagrant nuisance should be abated because modern science has been applied to for relief, through the education of the people in health laws.

Where the people have knowledge of health laws they will not perish, because the law of self-preservation will not permit of it. The farm and country are no longer isolated from the great centers of population, therefore it behooves us, with this organization, to do our part in preventing the spread of all transmissible diseases.

It has been my experience this year to trace two cases of fever to a milk peddler who had the fever himself.

Other cases, no doubt could have been traced to this source. Now for a few minutes I will try and point out how this of which I have been speaking may be brought to pass.

The Sixth District Branch Society should stand in the closest relation to the unit society, which, of course, is the county society.

No effectual work can be accomplished by this Branch unless the fullest sympathy and co-operation of the unit societies are obtained, therefore I say a more complete and more fully perfected organization must be effected.

1. It should be within the province of this society, through the county societies, to get the members to keep a complete record of all the cases of disease, of whatever name or nature, they encounter.

Every physician should be willing to do this, he owes it to himself, for his own advancement and protection.

The physician who is on the spot where the disease occurred can more readily, then and there, collect the data needed to interpret the cause of the trouble or epidemic, than can any other person—hence the case book should be recommended to all physicians.

This method of keeping a record should be so popularized, that it will become the exception for a physician not to take notes of his cases.

2. This society should create a committee of three or five, whose business it shall be to collect the data of all the cases of whatever name or nature, both medical and surgical, from every one of the three or four hundred physicians in our ten counties, and it should be part of the business of this committee to analyze and classify the cases and make a full report of their findings to this annual meeting, with a statement of cause and recommendation as to treatment, both preventive and curative, as they think best.

Such statistics would be a great aid to those of us who would like to compile statistics, and who have a tendency toward doing original work. They would also become a great help in formulating methods for preventing the spread of contagious diseases, by educating the people by publishing, perhaps, some of the statistics. This would also keep the physicians in touch with all that is taking place in our district.

3. This committee should be instructed to issue blanks and distribute them to all our members, which can be filled out by us, giving a complete clinical history and the details of each and every case. These reports should be forwarded,

at least every three months to the chairman of the committee.

4. It would seem to me that it is within the work of this society to advocate the building of laboratories in every county. Histological, bacteriological and pathological laboratories could be associated with hospitals that are now in existence in the larger towns and cities. In these laboratories, those of you who are possessed with scientific desires could do special work. Examination of the blood, analysis of secretions and excretions could be made, experiments in sanitation, experiments in feeding, in fact much work that will tend to make the mind more acute and improve the great body of physicians in this district could all be accomplished in such a laboratory.

This society should be so chock full of ambition along scientific lines that even the mediocre physician would become enthused with a desire to know and to do.

I shall never forget the day I spent, with my wife, in Oxford, England. The dignity of those old college buildings, as we wended our way, in and out among them, seemed to say, "Here is where men are made and where the laws of God are understood."

This society should be so well organized and so much in earnest in trying to interpret the cause and cure of disease, and the protection of man, that any problem in medicine or surgery should not be too formidable for us to undertake its solution.

Gentlemen, when we are willing to ransack every nook and cranny of our ten counties, to eradicate disease, our society will have proved to the people that it has a right to exist, and our meetings will be well attended.

I shall have the pleasure of leaving to my several successors in office this legacy, to make the work of this society more efficient.

PRESIDENT'S ADDRESS*

By S. BUSBY ALLEN, M.D.
RIVERHEAD, N. Y.

RUSKIN has said society can do no more for the individual than feed, clothe and shelter him. But suppose society has the wherewithal, who shall say how he is to be fed, clothed and sheltered? The elaboration of these things may be worked out by the educator, the engineer and the metaphysician; but always subject to the direction and the check of the doctor, he stands at the inception to give direction, and his pragmatic sanction at the finish of any advance stamps it as a veritable asset for the welfare of society. At the very portal of life he is confronted by the great problem of infant feeding, though this is as yet but partially solved; it is recognized as a problem, but we are only beginning to recognize the importance of the proper feeding of the adult. Back of the diseases of and disorders of the nervous system; of the circulatory and digestive system; of the kidney, liver and lungs; we find those of the ductless glands, mysterious, ellusive and sinister, and dependent upon hereditary dietetics and hygiene. If then, the office of the physician is to say how the individual shall be fed, clothed and sheltered it is the duty of organized society to provide the wherewithal. Medicine is purely a profession, it has no business side, ranking or outranking in this respect the church and education; as apart from law, engineering or even art, which has a business side and may be called semi-professional. The practice of medicine does not attract weaklings, it has drawn to itself mostly strong and kindly men, men who have treated the subject of their own maintenance as a secondary matter, a matter never talked about at a medical society meeting, and rarely among themselves by physicians of the better class. But a turning point has been reached, clinical and laboratory work, hygienic and preventive medicine, hold out the most promise and are absorbing the best minds, but these are not only non-remunerative but expensive of themselves and consume time and energy without stint while the older work, the cure and treatment of disease, is found to be exceedingly wasteful of energy and money by reason of duplication and harmful competition; the conservation of this energy and money, and the rendering the public a more effective and economical service is the task the profession has to solve.

While finance, manufactures, wholesale and retail distribution, skilled and unskilled labor to its lowest stratum, are busy organizing, the economic consciousness of the doctor seems to have halted, or to have limited itself, not too successfully, to the policy of raising the standard of medical education; a policy representing a social consciousness equaled by the guilds of the middle ages and far below that of the labor unionist of to-day who gladly makes heroic sacrifices on broad principles to sustain his own and kindred organizations, knowing that otherwise his case would be worse than it is and he would be crushed by organized capital to the lowest living wage. Where organization is found in the medical profession it is devoted to the increase of proficiency, colleges, foundations, academies, institutes, medical societies, helping and stimulating each other in the warfare on disease, soothed on the economic side by the universal half consciousness that a doctor can afford to be poor without humiliation. Only of late is the economic consciousness of the physician being roused to the shameful waste of energy and efficiency, that necessarily results from the lack of organization and that the very proficiency of the individual and of the profession

* Read before the Medical Society of the County of Suffolk, November 17, 1910.

tends to cut off his income, and that we must emancipate ourselves from the slavery into which individualism has led us. In order to do this we must submit ourselves, to an educative social discipline and acquire an orderly and obedient mobility and solidarity that will restore to us the rights of leisure, and of developmental recreation. That will secure us a certain income with opportunity to increase it by effort and ability. With the added dignity of being part of a great organization. An army or a naval officer is required to be an educated gentleman and is fit for, and admitted to any society, to his individual consequence is added that common to all his fellows, of belonging to a great organization having for its purpose the preservation and service of his country. It is from the meanness, and slavishness, of individualism we wish to emancipate ourselves. To readjust the ratio of service to remuneration to escape the capriciousness of individual patronage, and the suspiciousness, and lack of authority, that comes of having interests that are antagonistic to those of the public. Whatever plan is adopted it must, beyond all peradventure be a good thing for the public. If it is not a good thing for the public then it will not succeed; and does not deserve to succeed. The profession exists because the people need it, if it fail to fill the whole necessities of the people, schisms will arise, emphasizing some one truth neglected by the profession, and will ride into an ephemeral popularity at our expense and from our fault. The advantages then, that the public will derive from a change or readjustment of our relations, must be shown to be so evident that they will demand the changes of themselves; on our part we may rest assured that what is best for the people is best for us. Bearing this in mind then let us keep our minds in a formative, plastic state listening to all that is said by everyone, conserving all that is best in the present relations, adopting piece by piece what seems good and eliminating what seems undesirable, striving to attain an attitude of orientation, a perspective of our economic present, and, if possible, project an economic future laid out on principles so fundamental that they will appeal to all right thinking people. As pointed out in my article in the February number of the STATE JOURNAL, there is very nearly complete antagonism between our interests and those of the public. Its calamity is our opportunity, we reap our harvest from their misfortunes, a long illness with a slow convalescence means a big bill.

It is to our interest to emphasize the gravity of a case; or to make more calls than is absolutely necessary. In many cases where a consultation is desirable we may hesitate, because we know or we believe we would lose the family if we showed any lack of self-confidence. It is to our interest to allow the patients to humbug themselves by thinking they are ill when they are not; by a blind faith in drugs instead of correcting their mode of life, overwork, underwork, hygiene, dietetics; in deciding whether an operation is necessary or not, if there is an operation there is a large fee; otherwise there is only an office consultation. Preventive medicine is all against the doctor's interests, hospitals, boards of health, whatever prevents, lessens, or cures disease is against our interests. Is this a good thing for the public? They are only protected by the individual character of the doctor and by the high standards of the profession. But that is not all; the doctor they employ is a very busy man, they will tell you with thoughtless pride, probably that is one of the reasons they employ him, he is going night and day, they say. This, they believe, is the greatest guarantee of his efficiency, not stopping to think that the going habit lessens and finally destroys the studious habit, the executive usurps the contemplative and judicial, till routine becomes finally established, the doctor no longer takes post-graduate courses, ceases to buy and read new books, scarcely reads his medical journal, and finally ceases to attend his medical society; the momentum of habit and perhaps the necessity or desire for gain have further, and further, divorced him from science, and progress; is this a good thing for the public or for the doctor? Then, the pity of it all to us older members of profession, this adherence to superstition on the part of the public, this compliance on the part of the profession, delaying the bright morn of preventive and rational medicine, when sin, and disease, will be recognized as having an identical meaning. When marriages and the bearing of children will cease to be an accident, or a crime—when each, sweet, wholesome maiden, will look forward to being the selected and adored Madonna that shall bear a little Christ child that shall make the world better; when the life history of every child will be taken, and the records kept, the school life regulated as to exercise, ventilation, light, length and character of work; receiving all through its life the best medical attention, irrespective of the wealth or poverty of the parents. When typhoid, phthisis, all the eruptive and contagious diseases will be abolished. Village, and personal hygiene, taught and a community educated in dietetics would result in vigorous bodys and a resistive blood. Much more could be said in this line, but it may appear too vague, a tilting at wind-mills; let us get down to the concrete. Suppose our county society members organize and make a proposition to the people of the county that they give us a grant of money and a contract for five years and leave the rest to us; the alternative being, that if they do not care to do so, we will, as an organized body, go on with the enterprise ourselves.

The assessed value of the county is about $60,000,000 and the population about 94,000; with something less than 100 doctors outside of institutions. The tax would, of course, be on

property, but it will enable us to think better by taking it as a poll tax; such a tax of four dollars would give us $376,000. With this we could provide medicine, medical and surgical supplies and appliances, including trusses, crutches, eyeglasses, ambulances, medical books, journals, office rents, together with transportation and a fair salary for the doctors. This, though most important, I bring last because the general sense of the members would have to be taken on this question. Probably it should be somewhere about the salary of a college professor, with provision for such variations as attend differences of ability and energy and rank. The service would have to be organized on lines similar to the Marine Hospital Service. At the inception the salaries would have to be adjusted by a board appointed for that purpose. Doctors would be encouraged to hold on to all the practice they have at present and to as much more as they could get, what they made above the salaries assigned them would be divided, part going to themselves, part to raise the general average, part to a pension fund. The patient, of course, would have to pay extra, the same as they pay now for any attendance outside of the time a doctor was on duty. Doctors would not be allowed to attend patients out of their hours who did not pay. All doctors would be given post-graduate courses in turn and by competitive examinations men would be chosen to study specialties and having put themselves under bonds to remain with the society a specified time they would be given the best opportunity, here and abroad, to perfect themselves. Major operations would have to be paid for extra, this would go to meet the expense incurred in their education and all monies over and above would be divided as provided above.

Summary.

For the doctor:

Greater efficiency, due to post-graduate courses, to leisure for study and recreation, to whatever consultations he may desire, to all new books, more medical meetings, and the great stimulus of free associations with his fellows.

Relief from financial part, bookkeeping, collecting, and the uncertainty.

Escape from the capriciousness of individual patronage.

Added dignity.

For the public:

Greater economy, more efficient physicians always on hand, all necessary consultations, the more early recognition of disease, forestalling disease. The resources of 100 physicians at its disposal without extra cost. Hygienic, and dietetic advances, with all that preventive medicine means. The assurance that his interests and the doctors were as one.

Doubtless many other advantages will occur to you; in fact, all that is of advantage to the public is to the advantage of the doctor, as all that is of advantage to the physician is also to the advantage of the public, or in other words, their interests are as one.

THERAPY IN TYPHOID.

By THURSTON H. DEXTER, M.D.,

MERELY to form a basis for some therapeutic observations I present the bare essentials of a case of typhoid fever that I attended some months ago. I was called to the case on the seventh day of the disease and found a slender, rather delicate-appearing girl of about twenty-two years of age, in bed, with a temperature of 105, pulse of 112, and respirations of 26. She was apathetic and in sleep mildly delerious. Bowels constipated, tongue coated and tremulous. The patient's mental and physical condition within the next three or four days became progressively worse in spite of sponging, ice-cap, Dover's powders, and a fluid diet, including milk with barley water, broths and orange juice. At this time Thymol grs. iiss four times a day, which the patient had been receiving was discontinued as it produced heart-burn, epigastric burning sensations and gaseous eructations. Carphologia, subsultus tendinum, constant delirium requiring mild physical restraint, sordes and weakened pulse rapidly obtained. After the fourth day, and coincident with the administration of a combination of bile salts and pancreatic extract in capsule and a fluid preparation of pepsin, dilute hydrochloric acid and nux vomica, the patient improved and continued to an uneventful recovery, except for a slight hemorrhage from the bowel, following calomel. The improvement, under this method, of what had previously been an obstinate constipation was marked. I believe the effect of a diarrhœa if such condition had been present would have been equally marked and beneficial.

That I may appear orthodox I preface the following remarks from Osler's definition of the disease under consideration: "Typhoid fever is a general infection caused by the bacillus typhosus, characterized anatomically by hyperplasia and ulceration of the lymph follicles of the intestines, swelling of the mesenteric glands and spleen and parencymatous changes in the other organs. Clinically the disease is marked by fever, a rose-colored eruption, diarrhœa, abdominal tenderness, tympanites, and enlargement of the spleen." Other pathological processes mentioned by him as characteristic are: catarrh of the entire intestinal canal with desquamation of epithelium; inflammation and necrosis of mesenteric glands, congested spleen, parencymatous degeneration of liver, congestion and catarrh of gall bladder and renal involvements. Less to be emphasized in this paper, but requiring mention are

respiratory, circulatory and cerebro-spinal toxic inflammations. Saliva and gastric juice is diminished and, we have ample evidence, intestinal secretion as well, including the digestive ferments and their auxillaries, undergoes marked morbid change.

Osler says of the diarrhœa of typhoid that it is caused less by the ulcers than by the associated catarrh. Not only is the assimilative power of the organism impaired but its absorbtive functions are crippled as evidenced by the marked changes in the mesenteric and other lymphatics. Typhoid, therefore, not alone wastes the body by the direct effects of a virulent poison acting over a long period, but undermines the defenses of the victim by a more or less complete destruction of the organs and functions of vital importance. A general digestive inflammation and catarrh are here present. Hydrochloric acid, pepsin, rennin, amylopsin, pancreatin, bile and salivary secretion are markedly diminished, while at the same time ulcerative, necrotic, and purulent processes may be present and active in the organs which elaborate these juices.

"There is probably no diseased condition in which the nutritive processes of the human body are more profoundly affected than in typhoid fever," and I stop here to somewhat prematurely clinch the dictum that we have at least two fundamental indications to meet in the treatment of every case of this disease: (1) to stimulate the elimination of toxins and (2) to prevent the accumulation of waste products of metabolism in the body. These are the days of therapeutic lethargy and we are prone to amble about without vial or pill-box, crooning, "Allah is good." The pendulum has swung from the griping Black Draught of twenty years ago to the present-day drugless beatitudes of faith in the healing powers of nature. "Let 'em alone," is our watch word and "Don't give 'em any drugs," admits us past the portals of the inner door, to that holy of holies where men with long foreign names sit and blink in infinite wisdom. Typhoid, perhaps, better than any disease exemplifies the esthetic simplicity of modern medicine. For after wandering through a labyrinthine maze of drugs and methods, and in spite of present-day occasional onslaughts, the treatment as almost universally practised to-day consists of rest in bed, milk diet and cold sponge. Osler states: "In hospital practice medicines are not often needed, a great majority of my cases do not receive a dose. In private practice it may be safer, for the young practitioner especially, to order a mild fever mixture."

This has the weight of great authority, but has it anything more to commend it and if not, should it still be accepted blindly. Perhaps all of you subscribe to Dr. Osler's sentiments, but has any one of you had such a drugless case; and if not, why not?

Now, let us examine this position from another standpoint. Cast a mental picture of these disturbed organs and functions and ask yourself if this "hands off" policy seems compatible with the best care of the victim of the disease, or of the policy, as you will. How much does the rest do to "stimulate the elimination of toxins?" How much does a milk diet? How much does cold sponging? Ask the same questions as to the "prevention of the accumulation of waste products of metabolism in the body." You may well answer that *some* of these agents do *some* of the things to *some* extent. But can you say that these agents unaided are the best and safest means for meeting these indications? If not you must abandon Osler's contention, unless you take the stand that the indications to be met are not those named. This stand I do not think you will take. For my own part I accept the indications as laid down, though for the purposes of this paper I submit the following amplification and phrasing of them: Therapeutic and dietetic indications: (no specific treatment) (1) nutrient, (2) physiologic and (3) symptomatic treatment. The symptomatic treatment will receive no detailed consideration. By nutrient treatment is meant an endeavor to supply to the patient the maximum of nutrient that can be assimilated and absorbed. The importance of this in an illness of such character and duration is evident. By physiologic treatments (a rather faulty designation) is meant an endeavor to stimulate normal secretion and also to supplement the stimulation by the addition of physiologic drugs (e. g. digestives) both being for the purpose of enabling the system to get the maximum of efficiency from the nutrient treatment mentioned above. But this "physiologic treatment" does more than that, it meets those two great indications: "the elimination of toxins" elaborated by the typhoid bacillus, and "the prevention of the accumulation of waste products of metabolism." For if we can restore digestive functions to a condition approximating normal, nutrient and absorption will be increased and faulty metabolism correspondingly diminished. Also, it can readily be explained, elimination will be accelerated.

Before leaving the subjects of nutrient and metabolism let me pause to impress the fact that every available indicator must be used to maintain the proper ratio between the nourishment supplied and the ability of the patient to assimillate and absorb, bearing always in mind that to pile on the fuel beyond the capacity to utilize not only puts on an unnecessary and useless tax on a crippled digestion, but also undermines the sufferer by adding an avoidable quantity of those noxious products of faulty metabolism already mentioned. It adds, too, a third factor of embarrassment and sometimes grave import: namely distention. Now, you well may ask: what are

the means that may be used to restore the impaired function of the digestive tract; and in reply I put forth the names and some of the therapeutic properties of several well known agents: ox-gall: tonic, antiseptic and purgative. It assists in the emulsification of fat and stimulates the absorbent powers of the mucus membrane. Used as a laxative in constipation when the secretion of the bile is deficient (gr. 5-15).

Sodium glycocholate: excellent cholagogue and stimulates the digestion of fat in a marked degree (gr. 2-3).

Extract pancreatitis, T. Lauder Brunton states: "The pancreatic secretion is the most energetic and general in its action of all the digestive juices. It unites in itself the action of the saliva and the gastric juices besides having properties of its own."

To these agents may also be added pepsin, hydrochloric acid, and occasionally nux vomica.

There are many similar preparations and combinations, both officinal and proprietary. In favor of these agents it can be said that they can do no harm. This purely negative virtue is, of course, not alone sufficient to warrant their use, but it is, however, a virtue.

If, for the sake of argument, we conjure to mind the characteristic picture of typhoid fever, minus the typhoid infection and minus the fever, we have, thrown upon the mental screen, a symptoms complex that gives positive indications for the therapeutic agents enumerated.

Medical Society of the State of New York

COUNTY SOCIETIES

MEDICAL SOCIETY OF THE COUNTY OF ERIE.

Regular Meeting, February 20, 1911.

The President, Dr. McClure, in the Chair.

PROGRAM.

On motion, the reading of the minutes of the annual meeting was dispensed with, as they had been printed in the *Buffalo Medical Journal.*

The Secretary read the minutes of the Council meetings held in the interim which, on motion, were approved and adopted.

The adoption of these minutes carried the resignations of Dr. T. H. Wilson, Buffalo, Dr. Harry Y. Grant, Falls View, Ont., and Dr. H. P. Frost, Boston, Mass.

Dr. Wall, Chairman of the Membership Committee, presented the names of eight applicants for membership, each of whom was individually ballotted for and the Secretary directed to cast the ballot of the Society for their election.

Dr. Hopkins, Chairman of the Committee on Public Health, presented a resolution and moved its adoption as follows:

"RESOLUTIONS ADOPTED BY THE MEDICAL SOCIETY OF THE COUNTY OF ERIE, AT THE MEETING HELD FEBRUARY 20, 1911.

The Medical Society of the County of Erie believe that a new School for Truants is a necessity. We believe that, in the selection of a site, the interests of the boys should receive first consideration, and in view of this we believe that, in location and equipment, the school should represent the best thought of the country.

The school ought to provide for at least 200; it ought to be at least twelve miles from the city line; There ought to be a stream of water flowing through the place; it ought to be a place of such scenic beauty as to have a transforming power on the lives of the young people who are to live there; it ought to be at least a mile from railroad or trolley connections. We earnestly petition those in authority to give due consideration to these principles."

The foregoing resolution was adopted:

Dr. Blaauw brought up the question of Division of Fees which had been before the society at a previous meeting in which was stated that the chief fault was the overcrowding of the profession, and suggested that pamphlets be published on the subject, to be distributed in the high schools. No action, however, was taken.

A communication was received from the Chemung County Medical Society in which it was stated that that society had adopted a resolution asking the State Society to discontinue the publication of the Medical Directory of New York, New Jersey and Connecticut.

Another communication, together with a series of resolutions, was received from the Medical Society of the County of New York which took the exact opposite view and requested the continuance of the publication in question.

On motion of Dr. Grosvenor, the delegates of the Medical Society of the County of Erie to the State Society were instructed to oppose the discontinuance of the Medical Directory.

Dr. Hartwig asked "Why publish the names from other states and not confine the Directory to New York State?"

Dr. Wall explained that the income from the sale and advertising is sufficient to more than offset this additional expense and also that these states desire and depend upon it.

SCIENTIFIC SESSION.

"A Plea for the Early Operative Treatment of Rectal Diseases," Edward Clark, Buffalo.

"Some Indications for the Use of Blood Serum and for the Use of Blood Transfusion," F. C. Busch, Buffalo.

"Double Inguinal Strangulated Hernia—Krypt Orchid—Operation," L. G. Hanley, Buffalo.

"Report of Cases of Heart-Block and Stokes—Adams Syndrome," John Gray, Buffalo.

"Differential Diagnosis of Spinal Diseases," F. S. Crego, Buffalo.

Discussion followed the reading of above papers, after which a collation was served.

MEDICAL SOCIETY OF THE COUNTY OF RENSSELAER.

Regular Meeting, March 14, 1911.

PROGRAM.

"Primary Ovarian Pregnancy with Chlorosis," C. F. Kivlin, Troy.

Pneumonia Symposium.

"Pathology," W. Kirk, Troy.

"Bacteriology," W. T. Diver, Troy.

"Symptoms and Diagnosis," J. H. Flynn, Troy.

"Treatment in Infancy," T. F. Judge, Troy.

"Treatment in Adults," T. S. A. O'Connor, Troy.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

Regular Meeting, March 22, 1911.

PROGRAM.

"Mouth Breathing: Its Relation to Dentistry," LeRoy S. Blatner.

"A Consideration of Oral Hygiene," J. W. Canaday.

MEDICAL SOCIETY OF THE COUNTY OF ULSTER.

Regular Meeting at Kingston, March 14, 1911.

PROGRAM.

"A Method of Treating Pneumonia," F. Snyder, Rosendale.

"Man—Evolution, History. Present State and Future Aspirations," Mortimer B. Downer, Woodstock.

Both papers were followed by a general discussion.

MEDICAL SOCIETY OF THE COUNTY OF ALLEGANY.

Regular Meeting at Wellsville, March 9, 1911.

PROGRAM.

At the business session the Committee on Public Health was asked to request all members in Congress to favor a National Department of Health, with a member in the President's Cabinet.

SCIENTIFIC SESSION.

"Alcohol as a Medicine. Is It Necessary?" H. L. Hulett, Allentown.

Discussion opened by Dr. J. C. Young, Cuba.

"Puerperal Septicæmia," Geo. H. Witter, Wellsville.

Discussion opened by Dr. G. W. Roos, Wellsville.

"Some Common Diseases of the Eye and Its Appendages," Samuel Mitchell, Hornell.

Discussion opened by Dr. M. E. House, Cuba.

LEWIS COUNTY MEDICAL SOCIETY.

Special Meeting at Lowville, March 3, 1911.

A special meeting of the Lewis County Medical Society was held at the court house in Lowville, on Friday, March 3, 1911, to take suitable action on the death of Dr. Alexander H. Crosby.

The committee appointed by the president, Dr. King, to prepare resolutions on the death of Dr. Crosby, presented the following:

In the death of Dr. Alexander H. Crosby the members of this society lose a valued member and the medical profession throughout this country will miss from their ranks a prominent physician and surgeon.

To the general public was he long and favorably known. For nearly half a century, in the homes of both the rich and the poor, have his services been distinguished and his judgment respected.

Because of his ability, force of character, and quality of achievement, he was a leader; and as such, his counsel and advice were sought by his brethren in the complications of human suffering.

Thus the Medical Society of the County of Lewis, sorrowing in the loss of its co-worker, voices its appreciation of his worth, and cherishes his memory.

W. O. Hubbard, M.D.,
F. E. Jones, M.D.,
I. D. Spencer, M.D.

It was moved, seconded and carried that the resolutions be spread upon the minutes, a copy sent to the family, to the New York State Medical Journal, the *Journal of the American Medical Association*, and to the newspapers of Lewis County.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

Regular Meeting at Schenectady, March 14, 1911.

At the business session the question of the regulation of mid-wifery was brought before the Society and the Committee on Legislation was instructed to draw up a set of by-laws similar to those adopted by the New York Academy of Medicine in February.

SCIENTIFIC PROGRAM.

"Squint; With Special Reference to Its Treatment in Infancy and Childhood," J. J. O'Brien, Schenectady.

"Eye Headache," D. W. Overton, Schenectady.

"Points of Contact Between the Oculist and General Practitioner," M. S. Lord, Schenectady.

MEDICAL SOCIETY OF THE COUNTY OF SARATOGA.

Regular Meeting, March 29, 1911.

At the business session unanimous action was taken favoring the continued publication of the Tri-State Medical Directory.

SCIENTIFIC SESSION.

"Extra Genital Chancre; Report of Cases," F. J. Resseguie, Saratoga Springs.

"Pelvic Infection," D. C. Moriarta, Saratoga Springs.

"Tetanus; Report of a Recent Case with Recovery," G. S. Towne, Saratoga Springs.

"Report of a Case," T. E. Bullard, Schuylerville.

LEGISLATIVE NOTES

BILLS INTRODUCED INTO THE LEGISLATURE.

February 20 to March 17, 1911.

In Assembly.

An Act to amend section 236 of the Public Health Law, by extending the limitations as to working hours in pharmacies or drug stores to the whole State, the present provision applying only to cities of the first class. By Mr. Allen. To Public Health Committee. (Same as S. 487.) Printed No. 741. Int. 679.

An Act to amend the Public Health Law, by adding a new section, 335, prohibiting the establishment of a public drinking cup, except in accordance with the rules of the State Commissioner of Health. By Mr. Carew. To Public Health Committee. (Same as S. 471.) Printed No. 758. Int. 696.

An Act creating a commission of seven members, to be appointed by the Governor to inquire into the extent and nature of the practice of experimentation on living animals. By Mr. Hoey. To Public Health Committee. (Same as S. 310.) Printed No. 780. Int. 713.

An Act to amend section 194 of the Public Health Law, authorizing the issuing of licenses to practice dentistry, to certain persons. By Mr. Washburn. To Public Health Committee. (Same as S. 431.) Printed No. 823. Int. 751.

An Act to amend the Greater New York Charter, by adding a new section, 402, permitting the construction of tributary sewers by private persons in all districts where the resident population does not average 100 persons per ordinary city block. By Mr. Kennedy. To Cities Committee. (Same as S. 518.) Printed No. 827. Int. 755.

An Act to amend the Domestic Relations Law, by adding two new sections, 13-a and 13-b, providing that no license to marry shall be issued except after the parties to the contract have presented to the license clerk a medical certificate as to their physical condition. By Mr. W. R. Herrick. To General Laws Committee. Printed No. 846. Int. 765.

An Act to amend the Insanity Law, by adding a new section, 126, providing that the medical record of a criminal insane person committed to a State hospital shall be made a part of the case book in said hospital. By Mr. Hoyt. To Public Institutions Committee. Printed No. 850. Int. 769.

An Act to amend the Education Law, by adding a new article, 46, providing for the establishment of a State Veterinary College at the New York University in the City of New York, and appropriating $25,000. By Mr. Walker. To Ways and Means Committee. (Same as A. 801.) Printed No. 860. Int. 779.

An Act to amend the Education Law, by adding a new article, 46, appropriating $25,000 for the establishment of a State Veterinary College at New York

University in the City of New York. By Mr. Goldberg. To Ways and Means Committee. (Same as A. 779.) Printed No. 891. Int. 801.

An Act to amend the Public Health Law, by adding eight new sections, 283 to 289, inclusive, providing for the licensing of barbers by a State board of examiners. By Mr. Jackson. To Public Health Committee. Printed No. 895. Int. 805.

An Act to amend the charter of the city of Cortland, by providing for medical and dental examination of children in the public schools and the State Normal School. By Mr. Brown. To Cities Committee. Same as S. 573.) March 8. Reported. March 9. To third reading. March 13. Passed. March 14. In Senate. To Cities Committee. Printed No. 907. Int. 818.

An Act to amend the State Charities Law, by adding a new section, 114, specifying the procedure for the detention and discharge of inmates of Craig Colony. By Mr. McGrath. To Public Institutions Committee. Printed No. 930. Int. 839.

An Act to amend section 239 of the Public Health Law, by providing that where provision is made in this law for regulating the sale of drugs, chemicals and poisons for medicinal purposes, local authorities shall have no power to pass any ordinance, rule or regulation relative to such sale, and declaring void any such ordinance or rule now in effect. By Mr. J. J. O'Neil. To Public Health Committee. Printed No. 932. Int. 841.

An Act to amend the Public Health Law, by adding a new section, 335, prohibiting the establishment of a public drinking cup in any building used or occupied as a public school, except under the rules of the State Commissioner of Health. By Mr. Fry. To Public Health Committee. Printed No. 940. Int. 849.

An Act terminating the office of commissioners for the construction of a sanitary sewer in Westchester county, and providing for the appointment of new commissioners by the Governor. By Mr. Hackett. To Ways and Means Committee. (Same as S. 560.) Printed No. 956. Int. 865.

An Act to amend the Public Health Law, by adding a new section, 318, making it unlawful to sell at retail or furnish to any person other than a duly licensed physician, dentist or veterinary, a hypoderimc syringe or needle without the written order of such physician or veterinary. By Mr. Boylan. To Public Health Committee. (Same as S. 381.) Printed No. 983. Int. 883.

An Act to amend section 10 of the State Charities Law, and adding a new section, 10-a, providing for the supervision of private charitable organizations which shall report quarterly to the State Board of Charities as to the status of its funds. By Mr. Cuvillier. To Charitable and Religious Committee. Printed No. 1027. Int. 923.

An Act repealing section 79 of chapter 659, Laws of 1910 (the Inferior Criminal Courts Act), relative to medical examination of prostitutes. By Mr. A. Parker. To Cities Committee. Printed No. 1044. Int. 940.

An Act to amend section 22 of the Public Health Law, relative to the filing of birth certificates on blank forms furnished by the local boards of health. By Mr. Bush. To Public Health Committee. Printed No. 1078. Int. 969.

An Act to amend the Public Health Law, by adding ten new sections, 335 to 339-e, providing that cold storage foods shall be marked with the time they are placed in storage and the time when they are taken out, and providing that such foods shall not be kept in storage more than twelve months. By Mr. Cuvillier. To Public Health Committee. Printed No. 1080. Int. 971.

An Act to amend section 83 of the Insanity Law, by providing for a new hearing and review of proceedings, committing a person to a State hospital for the insane, after a lapse of one year. By Mr. O'Connor. To General Laws Committee. Printed No. 1147. Int. 1021.

An Act to amend section 200 of the Charities Law, by providing that the Board of Managers of the State Training School for Girls at Hudson shall consist of seven persons, one of whom shall be a physician, and at least two of whom shall be women. By Mr. Saunders. To Charitable and Religious Committee. Printed No. 1208. Int. 1043.

In Senate.

An Act to amend section 310 of the Public Health Law, by authorizing the admission to public schools of unvaccinated pupils either upon the certificate of a physician that vaccination will jeopardize the pupil's health or upon a signed statement of a parent or guardian that he conscientiously opposes vaccination. By Mr. McManus. To Public Health Committee. (Same as A. 583.) Printed No. 437. Int. 413.

An Act to amend the Greater New York Charter, by adding a new section, 244-a, providing for departmental physicians. By Mr. McManus. To Cities Committee. Printed No. 449. Int. 425.

An Act to amend section 194 of the Public Health Law, authorizing the issuing of licenses to practice dentistry to certain persons. By Mr. Fiero. To Public Health Committee. (Same as A. 751.) Printed No. 455. Int. 431.

An Act to provide for a supply of pure and wholesome water for the city of Mount Vernon and for the appointment of a commission to acquire lands and to construct necessary reservoirs. By Mr. Wainwright. To Cities Committee. (Same as A. 136.) Printed No. 481. Int. 451.

An Act to amend the Public Health Law, by adding a new section, 335, providing that no wall or rooms used for living or working purposes shall be repapered or recalcimined until the old paper or calcimine has been removed. By Mr. Ramsperger. To Public Health Committee. (Same as A. 276.) Printed No. 488. Int. 458.

An Act to amend the Public Health Law, by adding a new section, 335, prohibiting the establishment of a public drinking cup, except in accordance with rules of the State Commissioner of Health. By Mr. Sanner. To Public Health Committee. (Same as A. 696.) Printed No. 505. Int. 471.

An Act to amend section 236 of the Public Health Law, by extending the limitations as to working hours in pharmacies or drugstores, to the whole state, the present provision applying only to cities of the first class. By Mr. Ferris. To Public Health Committee. (Same as A. 679.) Printed No. 520. Int. 487.

An Act to amend the Greater New York Charter, by adding a new section, 402, permitting the construction of tributary sewers by private persons in all districts where the resident population does not average 100 persons per ordinary city block. By Mr. Harte. To Cities Committee. (Same as A. 755.) Printed No. 552. Int. 518.

An Act to amend the Greater New York Charter, by adding a new section, 905-a, providing that real estate owned by any hospital in New York City exclusively used for hospital purposes shall be exempt from public improvement assessments. By Mr. Black. To Cities Committee. (Same as A. 558.) Printed No. 579. Int. 543.

An Act terminating the office of the commissioners for the construction of a sanitary sewer in Westchester county, and providing for the appointment of a commissioner by the Governor. By Mr. Fiero. To Judiciary Committee. (Same as A. 865.) March 16. Reported. Printed No. 603. Int. 560.

An Act to amend the charter of the city of Cortland, by providing for medical and dental examination of children in the public schools and the State Normal School. By Mr. Hewitt. To Cities Committee. (Same as A. 818.) Printed No. 616. Int. 573.

An Act to amend section 740 of the Greater New York

Charter, by providing for the appointment of a chief medical officer of the fire department at a salary of $6,000 per year. By Mr. T. D. Sullivan. To Cities Committee. March 15. Reported. March 16. To third reading. Printed No. 633. Int. 580.

An Act to enable the Albany county board of supervisors to convey or lease the Albany penitentiary property for the erection of a building for the Albany Medical College. By Mr. Sage. To Internal Affairs Committee. (Same as A. 852.) Printed No. 654. Int. 601.

An Act to amend section 47 of the Insanity Law, by abolishing the office of the purchasing steward for state insane hospitals, and providing for the appointment of a steward for each of such hospitals. By Mr. Bayne. To Judiciary Committee. Printed No. 810. Int. 738.

An Act to amend section 198 of the Public Health Law, by providing for the granting of dental licenses in certain cases. By Mr. Ferris. To Public Health Committee. Printed No. 845. Int. 759.

BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A Manual of Gynecology. By Thomas Watts Eden, M.D., C.M., Edin., F.R.C.P., Lond., F.R.C.S., Edin. Obstetric physician with charge of out-patients, and lecturer on Midwifery and Gynecology, Charing Red Cross Hospital; Surgeon to in-patients, Chelsea Hospital for Women; Physician to in-patients, Queen Charlotte's Lying-In Hospital; Examiner in Midwifery and Diseases of Women to the University of Oxford, and to the Royal Army Medical College. With 272 illustrations in the text. Philadelphia. P. Blakiston's Son & Co., 1012 Walnut Street. 1911. Price, $5.00 net.

Inebriety. A Clinical Treatise on the Etiology, Symptomatology, Neurosis, Psychosis and Treatment, and the Medico-Legal Relations. By T. D. Crothers, M.D., Supt. Walnut Lodge Hospital, Hartford, Conn. Editor of the Journal of Inebriety, Author of Morphinism, and Narcomania, Drug Habits and their Treatment, etc. Recording Secretary of the American Medical Society for the Study of Alcohol and other Narcotics; Member of the American Medical Association, the British Medical Association, Honorable Member of the British Society for the Study of Inebriety, etc., etc. 1911. Harvey Publishing Company, Cincinnati, Ohio.

Cholera and Its Treatment. By Leonard Rogers, M.D., F.R.C.P., F.R.C.S., B.S., I.M.S. Physician, Cholera Wards, Medical College Hospital, Calcutta; Professor of Pathology, Medical College, Calcutta; Fellow of the Calcutta University; Fellow of the Asiatic Society of Bengal; Corresponding Member of the Philippines Medical Society, the American Society of Tropical Medicine; the American Climatological Association and the Société De Pathologié Exotique; Mary Kingsley Medallist for Research in Tropical Medicine. London. Henry Frowde, Oxford University Press; Hodder & Stoughton, Warwick Square, E. C. 1911. Price, $4.00.

Hughes' Practice of Medicine, including a section on Mental Diseases and one on Diseases of the Skin. Tenth edition, revised and enlarged. By Dr. R. J. E. Scott, M.A., B.C.L., M.D. Attending Physician to the Demilt Dispensary; Formerly Attending Physician to the Bellevue Dispensary, New York. Author of "The State Board Examination Series," etc., etc. With 63 illustrations. Philadelphia. P. Blakiston's Son & Co., 1012 Walnut Street. 1911. Price, $2.50 net.

Diseases of the Nose, Throat and Ear, Medical and Surgical. By William Lincoln Ballenger, M.D., Professor of Otology, Rhinology, and Laryngology, College of Physicians and Surgeons, Department of Medicine, University of Illinois, Chicago; Fellow of the American Laryngological Association; Fellow of the American Laryngological, Rhinological and Otological Association; Fellow of the American Academy of Ophthalmology and Otolaryngology, etc. Third edition, revised and enlarged. Illustrated with 506 engravings and 22 plates. Lea & Febiger, Philadelphia and New York. 1911.

A Handbook of Practical Treatment. In three volumes. By 79 eminent specialists. Edited by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania; and A. O. J. Kelly, M.D., Assistant Professor of Medicine, University of Pennsylvania. Volume II: Octavo of 865 pages, illustrated. Philadelphia and London. W. B. Saunders Company. 1911. Per volume: cloth, $6.00 net; half morocco, $7.50 net.

The Blues (Splanchnic Neurasthenia), Causes and Cure. By Albert Abrams, A.M., M.D. (Heidelberg), F.R.M.S. Consulting Physician, Denver National Hospital for Consumptives, the Mount Zion and the French Hospitals, San Francisco; President of the Emanual Sisterhood Polyclinic; formerly Professor of Pathology and Director of the Medical Clinic, Cooper Medical College, San Francisco. Illustrated. Fourth edition, revised and enlarged. New York. E. B. Treat and Company, 241-243 West 23d Street. 1911. Price, $1.50.

The Principles and Practice of Dermatology. Designed for students and practitioners. By William Allen Pusey, A.M., M.D., Professor of Dermatology in the University of Illinois; Dermatologist to St. Luke's and Cook County Hospitals, Chicago; Member of the American Dermatological Association. With five plates, one in color, and three hundred and eighty-four text illustrations. Second edition. New York and London. D. Appleton and Company. 1911. Price, $6.00 cloth, and $7.00 half leather.

Prevention of Infectious Diseases. By Alvah H. Doty, M.D., Health Officer of the Port of New York. New York and London. D. Appleton and Company. 1911. Price, $2.50, cloth.

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles on treatment, medicine, surgery, neurology, pædiatrics, obstetrics, gynæcology, orthopædics, pathology, dermatology, ophthalmology, otology, rhinology, laryngology, hygiene, and other topics of interest to students and practitioners. By leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A., with the collaboration of Wm. Osler, M.D., Oxford; John H. Musser, M.D., Philadelphia; A. McPhedran, M.D., Toronto; Frank Billings, Chicago; Chas. H. Mayo, M.D., Rochester; Thos. H. Rotch, M.D., Boston; John G. Clark, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh; John Harold, M.D., London; Richard Kretz, M.D., Vienna. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels, and Carlsbad. Vol. I. Twenty-first series. Philadelphia and London. J. B. Lippincott Company. 1911. Price, $2.00.

BOOK REVIEWS.

Modern Surgery. General and Operative. By John Chalmers Da Costa, M.D., Professor Surgery and Clinical Surgery in Jefferson Medical College, Philadelphia; Surgeon Philadelphia General Hospital; Consulting Surgeon St. Joseph's Hospital, Philadelphia; Fellow of the American Surgical Association; Member of the American Philosophical Society; Membre de la Sociètè International de Chirurgie; Member of the Medical Reserve Corps, U. S. A. Sixth Edition, thoroughly revised and enlarged. With 966 illustrations, some of them in colors. Philadelphia and London. W. B. Saunders Company. 1910. Price in cloth, $5.50.

The frequent editions of Dr. Da Costa's work is a fair indication of its popularity and worth. The present edition has been largely revised, but we note in it many of the old time plates, some of which are too small to properly illustrate the object intended, as an instance the figures picturing Kocher's method of reducing shoulder dislocation. Most of the work, however, is adequately illustrated with satisfactory cuts. We note the full presentation of intravenous infusion, including the method of Crile and its various modifications. The article on fractures is extensive and well presented, but it seems unnecessary to describe at length in a single volume surgery methods of treatment which are practically obsolete, as for instance, Senn's method of treatment of fracture of the neck of the femur.

Some of the minor, but every-day ailments, receive only passing mention; an error too often present in our text-books, for all practitioners are not going to perform major operations, but do need the details of some of the lesser operations. Taken as a whole the book is very carefully written and the subjects presented in a clear and satisfactory manner. H. B. D.

A Practical Treatise on Fractures and Dislocations. By Lewis A. Stimson, B.A., M.D., LL.D., (Yale), Professor of Surgery in Cornell University Medical College, New York; Surgeon to the New York and Hudson Street Hospitals; Consulting Surgeon to Bellevue, St. John's and Christ Hospitals; Corresponding Member of the Société de Chirurgie of Paris. Sixth edition, revised and enlarged with 361 illustrations and 65 plates in monotint. Lea & Febiger, New York and Philadelphia. 1910.

This sixth revised and enlarged edition of Dr. Stimson's work on Fractures and Dislocations emphasizes the fact that in books as individuals the possession of a high vital index accounts for the "survival of the fittest." Among works on this special subject it is venerable, yet authoritative. Age has clothed it with wisdom, and in the fullness of years there is here garnered the ripest and the richest fruits of a wide experience.

The present edition is a book of 864 pages, with 361 illustrations and 65 plates in monotint.

Four hundred and twenty-four pages are devoted to fractures and the remainder to dislocations.

The additions noted in this edition are the result of the author's study of the injuries of the small bones of the carpus and tarsus treated under a new subhead "midcarpal fracture—dislocations," the recognition of which has been made possible by the X-Ray. The author has also added sections on fractures of the floor of the acetabulum and of the internal epicondyle of the femur, and on backward dislocations of the lower jaw.

The author has made liberal use of the skiagraph in illustrating his clinical data, yet he emphasizes the fact that "there are many elements of error in a skiagram, many possibilities of misinterpretation, which must be controlled by experience in the use of the rays and by digital examination of the part." Nevertheless the surgery of broken bones will be benefited by a more general and systematic use of the X-Ray than has been yet taught or practiced.

The proper sphere of the X-Ray is not simply a means of making a preliminary diagnosis, but it should be systematically used to confirm clinical evidence, to test the effectiveness of reduction, and to "check-up" the after treatment.

Not merely a preliminary skiagram, but immobilization in the presence of the X-Ray, and the effectiveness of treatment verified by the final X-Ray must be the rational and ultimate procedure.

It is unnecessary to again detail the many excellent features of this admirable work. It is sufficient to note that it is the latest edition of a work that has achieved a reputation for its wide clinical experience, its ripe scholarship and its sound judgment.

W. F. Campbell.

Surgical Diagnosis. By Daniel N. Eisendrath, A.B., M.D., Adjunct Professor of Surgery in the Medical Department of the University of Illinois; Attending Surgeon to the Michael Reese and Cook County Hospitals, Chicago. With 482 original illustrations, 15 of them in colors. Philadelphia and London. W. B. Saunders Company. 1907. The author presents a volume of 776 pages with 482 original illustrations, 15 of them in colors.

The contents are arranged according to the natural anatomical divisions of the body and consist of eight chapters which treat respectively of the surgical affections of the head, neck, thorax, abdomen, extremities, spine, post-operative complications, and methods of examination.

The subject of diagnosis in surgical affections has been approached chiefly from the clinical standpoint, and the various injuries and diseases have been grouped in the manner in which they are considered when examining a patient for purposes of diagnosis.

The differentiation of affections which simulate each other is duly emphasized, and special emphasis is put on the importance of early diagnosis for the purpose of prompt surgical intervention.

The art of diagnosis is the art of taking pains. This is the vital residuum which no book can supply. However, this work is valuable in its suggestiveness, in its ample and instructive illustrations, and in the anatomical method of investigation which it inspires.

W. F. Campbell.

Applied Anatomy. The Construction of the Human Body Considered in Relation to Its Functions, Diseases and Injuries. By Gwilym G. Davis, Associate Professor Applied Anatomy, University of Pennsylvania; Member Royal College of Surgeons, England; Surgeon Episcopal, St. John's and Orthopedic Hospitals; Orthopedic Surgeon Philadelphia General Hospital; Fellow American Surgical Association; Member Society of Clinical Surgery, American Orthopedic Association; Fellow Philadelphia Academy of Surgery, Philadelphia College of Physicians, and American Academy of Medicine, etc. With 630 illustrations. Philadelphia and London. J. B. Lippincott Company. Price, $6.00.

In studying this work one cannot but be impressed with the skill which the author has employed in selecting the important facts of anatomy and presenting them in such a manner that their application to the work in hand is clearly understood, whether to the surgeon in his operative work or to the diagnostician.

The volume is most exhaustive and complete in its scope and as a ready reference cannot fail quickly and completely to supply every anatomical point that the busy practitioner demands.

Especially to be commended are the chapters on the Face, the Mouth and Throat, while the anatomy of the neck in its relation to surgical procedures is most clearly illustrated.

The chapters on the Abdominal and Pelvic cavities show all the salient facts to be considered in surgical work and the non-peritoneal relations of the viscera are most fully explained and their importance emphasized.

In the section on the Extremities the text and illustrations are of marked value and of great assistance to the understanding of their anatomy and the proper methods of remedying the injuries to which they are liable.

The work throughout is most profusely illustrated and though one sees occasionally an old face yet in these many and excellent anatomy pictures lies one of the greatest charms of the book.

One cannot but congratulate the author for robbing anatomy of its dry, tiresome facts and in giving to the profession a volume whose study they may undertake not only with great profit but with a maximum of pleasure. WARREN S. SIMMONS.

THE ELEMENTS OF THE SCIENCE OF NUTRITION. By GRAHAM LUSK, Ph.D., Sc.D., F.R.S. (Edin.). Professor of Physiology at the Cornell University Medical College, New York City. Second Edition, revised and enlarged. Philadelphia and London. W. B. Saunders Company. 1909. Price in cloth, $3.00.

If one is at all interested in the "whys and wherefores" in the matters of assimilation and metabolism, he cannot help being captivated by the above book.

Consideration of the enormous amount of most exacting labor done in its preparation, inasmuch as results have been accomplished therefrom, place it among the really valuable works of medical science.

The introductory chapter is an adequate preparation for what follows in the sections to come.

The portion devoted to "starvation" gives one a clearer idea of the processes contributory to that end, than some other dissertations upon the subject.

The space occupied by "regulation of temperature" is filled with experiments of extreme interest to all in every day life.

Thus one may go on throughout the book, as each section or chapter contains valuable information, with little or none of the ramblings so prevalent in the modern day text-book.

To the average reader, the last six chapters would appeal more strongly, as they are perhaps more intimately associated with the clinical management of disease.

The appendix comprises much of indispensable material in the line of reference tables.

Last, but not least, the volume is of less than 400 pages, instead of 800 or 1,000 as seems to be the present day tendency. H. W. L.

MODERN TREATMENT; The Management of Disease with Medicinal and Non-Medicinal Remedies. By Eminent American and English Authorities. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica, Jefferson Medical College, etc. Lea and Febiger, New York and Philadelphia. Two 8vo volumes, pp. 1,800.

Looming large among the happy recollections of boyhood is a massive volume almost as large as the unabriged dictionary, but written in a much more connected style, inscribed on which in golden characters was the title "Gateley's Educator, or Compendium of Universal Knowledge." Within its covers one could gain enlightenment on every subject from algebra to phrenology, from the art of making love to the care of poultry.

One has only to glance through the list of contributors to Professor Hare's compendium of modern treatment to feel assured that here too may be found complete and authoritative information on every phase of applied medical science.

Volume I, like all Gaul, is divided into three parts. Of these the first deals with modern pharmacology and its bearing on practical therapeutics, the combination of drugs, prescription writing and the untoward effects of drugs; the second describes the treatment of disease by non-medicinal measures, and the third comprises the treatment of the infectious diseases.

Part two is of especial interest, as the sub-titles indicate. Climatic therapeutics, general exercise, mineral springs, hydrotherapy, electrotherapeutics, rest cure, nutrition and food, hygiene and sanitation, serum therapy, opsonins and vaccines, glandular therapy and tuberculin as a diagnostic and therapeutic agent are the chapter titles that indicate the extent of the ground covered.

It would be difficult to choose any one from among these most excellent articles as particularly valuable. Each is contributed by a man pre-eminent in his specialty—witness such names as Baruch, Dercum, Pottenger, and many others.

In Volume II, Craig writes on malaria and on other animal parasites, Mackenzie on the heart, DaCosta on the blood, Beebe on the thyroid, Tyson on nephritis, Fox on the skin, and other equally well-known authorities cover the remaining field of non-surgical practice. The limits of a review prevent a just appreciation of each author individually. Those already mentioned vouch for the rest.

As to the work as a whole. There can be no question of the value of a cyclopedia of treatment, for this branch of medical practice as developed in most text-books and systems of medicine is so interwoven with symptomatology and diagnosis as to require somewhat extended reading to be fairly comprehended. Furthermore, the experience and predilection of individual authors so colors their choice of therapeutic measures that one is apt to minimize the value of what another declares to be important. In a work of this kind where all forms of treatment are independently and completely described the question of personal choice is left to the reader who has the advantage of comparing the extended experience of a large number of able observers with a broad variety of both medicinal and mechanical agents. He also may find concisely stated here the results of the most modern forms of treatment with vaccines, sera, etc., that would otherwise require extended search through a very scattered literature.

To say that this is an excellent work excellently done and reflecting credit on editor and publishers alike is to state one's approval in very moderate terms.

HENRY GOODWIN WEBSTER.

A HANDBOOK OF THE SURGERY OF CHILDREN. By E. KIRMISSON, Professor of the University of Paris; Surgeon to the Hospital for Sick Children, etc. Translated by J. KEOGH MURPHY, M.C. (Cantab), F.R.C.S.; Surgeon, Miller General Hospital for South East London; Senior Assistant-Surgeon Paddington Green Children's Hospital. Henry Frowde, Oxford University Press. Hodder & Stoughton, Warwick Square, E. C. 1910. Price, $7.00.

It is a real pleasure to read the several chapters of this work and one is constantly impressed with the completeness of each chapter. But, upon the other hand, when the book is taken as a whole there is a decided lack of completeness which markedly decreases the value of the book either to the surgeon or to the pediatrist.

Pediatric surgery is at such a point that completeness in a work given up to it is very essential because the field has not yet been satisfactorily covered.

There is enough to be said in a volume of this size upon the surgery of children without taking up such subjects as are clearly outside the realms of childhood surgery; as, for instance, retained menstrual fluid (page 178), and other adult propositions.

The illustrations are for the most part good, although many of them bear the unmistakable evidence that the subject has long since passed the period of puberty.

Two hundred and eighty pages are given to a consideration of the congenital malformations and they are ably discussed, and it is this section that gives the work its real value. There is here a pleasurable absence of fruitless discussion and history and the author's side to teach has been splendidly accomplished. This section alone commends the work to those who are interested in the subject.

The amount of detailed information upon the subject of plastic work is such that it adds some value to the volume.

Taken as a whole, it represents a French viewpoint, and although the translation is admirably done, the volume has a small value to the American reader, with the exceptions already noted.

Le G. Kerr.

Text-Book of Medical and Pharmaceutical Chemistry. By Elias H. Bartley, B.I., M.D., Ph.G., Professor of Chemistry, Toxicology and Pediatrics in Long Island College Hospital; late Dean and Professor of Organic Chemistry in the Brooklyn College of Pharmacy; late Consulting Chemist to the Department of Health of the City of Brooklyn; late President of the Board of Pharmacy of the County of Kings; Member of the American Pharmaceutical Association; of the American Chemical Society; Fellow of the American Association for the Advancement of Science, etc. Seventh revised edition. With ninety illustrations. Philadelphia. P. Blakiston's Son & Co, 1012 Walnut Street. 1909.

In the revision of this excellent text-book but few changes have been found necessary in its general character and form. In Part IV, the section devoted to the protein has been rewritten and made to conform with the nomenclature and classification recommended by the committees of the American Physiological Society and the Society of Biological Chemists. The application of the science to practical medicine has been emphasized in Part V, and many substances properly belonging under the head of Physiological Chemistry have been omitted, to make room for the discussion of the clinical applications. New topics have not been introduced, so as not to make the volume too bulky. The practical arrangement of the subjects will be appreciated by both physicians and students.

Otto Hensel.

OBITUARY.

WILLIAM WARREN POTTER, M.D.

Dr. William Warren Potter died at his home in Buffalo on March 14, 1911. He was born at Strykersville, N. Y., December 31, 1838. He was the son of Dr. Lindorf and Mary Green (Blanchard) Potter. He received his academic education at Arcade Seminary, New York, and at Genesee Seminary and College, Lima, N. Y. His medical education was obtained at Buffalo University Medical College, from which he graduated in 1859. In the spring of that year he formed a partnership for the practice of medicine with his uncle, Dr. M. E. Potter, of Cowlesville, N. Y.

At the beginning of the Civil War he entered the army, and in the summer of 1861 became assistant surgeon of the Forty-ninth Regiment, New York Volunteers. He served in the Army of the Potomac under McClellan during the Peninsula and Antietam campaigns and under Burnside in the Fredericksburg disaster. He was left in charge of wounded soldiers while the army was retreating to Harrison's Landing, and was captured by Confederates, June 30, 1862, and had an interesting interview with Stonewall Jackson. He was confined in Libby Prison, but was soon exchanged, and returned to his regiment. In December, 1862, he was promoted to the rank of surgeon and served with the Fifty-seventh Regiment, New York Volunteers, during the Chancellorsville and Gettysburg campaigns. Soon after the battle of Gettysburg he was assigned to the charge of the First Division hospital, Second Army Corps, and continued on that duty until mustered out of service with his regiment at the close of the war. He was brevetted by the President of the United States, for faithful and meritorious service, lieutenant-colonel of the United States Volunteers, and by the Governor of New York State, for like reasons, lieutenant-colonel of New York Volunteers.

At the end of the war, after practicing for a short time at Batavia, Dr. Potter took up practice in Buffalo, where he resided until his death.

Dr. Potter was a member of the American Medical Association, and at one time chairman of the Section of Diseases of Women of that association. He was president of the Medical Society of the State of New York in 1891; Medical Society County of Erie in 1893; Buffalo Medical and Surgical Association in 1886; Buffalo Obstetrical Society in 1884-1886. At the time of his death he was secretary of the American Association of Obstetricians and Gynecologists. He was president of the Section of Gynecology and Abdominal Surgery, First Pan-American Medical Congress in 1893, and since 1891 president and examiner in obstetrics and gynecology, New York State Board of Medical Examiners; president of the National Confederation of Medical Examining and Licensing Boards, 1895-1899, and consulting surgeon at the Buffalo General Hospital. Dr. Potter was an extensive contributor to the medical press, especially in gynecology. He was editor of the *Buffalo Medical Journal* since July, 1888; editor of the annual volume of the Transactions of the American Association of Obstetricians and Gynecologists.

DEATHS.

James D. Appley, M.D., Binghamton, died February 18, 1911.

Charles L. Bond, M.D., Valois, died February 25, 1911.

John Williams Coe, M.D., New York City, died March 6, 1911.

Alexander H. Crosby M.D., died at Lowville, N. Y.

James William Dodd Hancock, M.D., Brooklyn, died March 22, 1911.

W. W. Hewlett, M.D., Babylon, died March 5, 1911.

Charles Henry Lewis, M.D., New York City, died March 31, 1911.

William Warren Potter, M.D., Buffalo, died March 14, 1911.

Total Membership April 1, 1911, 6,869.

Full list of officers will be published in May Journal.

NEW YORK STATE JOURNAL OF MEDICINE

A Journal Devoted to the Interests of the Medical Society of the State of New York

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EDITORIAL DEPARTMENT

THE MEDICAL PROFESSION OF THE STATE AND THE ANTIVIVISECTION AGITATION.

THE medical profession does not need to be reminded that a notoriously misguided and potentially harmful attack upon the science of medicine has been conducted in this State during the past five years by the antivivisectionists. Nor does it need to be informed that, in spite of extraordinary efforts, remarkable alike for determination and misrepresentation, no legislative recognition of their contentions has thus far been secured. Four successive legislatures have refused to grant their demands for restrictive legislation, and all but one have declined to report out of committee the bills which the antivivisectionists have caused to be introduced.

That an agitation of some extent has been created in the State by the antivivisection campaign is not denied. But the volume of the agitation has to be gauged by the sum of the credulous persons who have been brought, chiefly through exaggeration and misrepresentation, to look with suspicion, or even horror, upon the means at present employed to extend the boundaries of medical knowledge, and of the considerable number of better informed and more reasonable persons who, appreciating the gravity of the subject, have endeavored by educational means to limit the advance of this mischievous propaganda. Unfortunately, this resistance has not been applied generally throughout the State, so that a considerable body of our people are still subject to exploitation by the antivivisectionists.

This movement has flourished because in the past the medical profession has felt a considerable degree of contempt for the objects and aggressions of the antivivisectionists, and has thus done very little, generally speaking, to combat their activities. The inevitable result has been that the floods of sensational and false literature distributed throughout the State, and the wholly misleading exhibit which purports to illustrate the cruel and inhuman manner in which experiments on animals are conducted, have been permitted to impose their poisonous doctrines upon a sensitive but credulous public. We may, therefore, under the circumstances, feel a high degree of confidence in the intelligence and moral sense of our people who have so largely resisted this unopposed propaganda, and we may rejoice in the fact that almost no influential newspaper has come to espouse the antivivisectionists' cause, and that both our Federal and State legislators have hitherto refused to enact special laws relating to animal experimentation that might come to deprive medical science of its most important and certain means of advance.

The time has now arrived when we, in our capacity of conservators of the public health and welfare, may have to take a more positive position in resisting the advance of the antivivisectionist movement, which, left so largely to unrestrained operation, has employed ever more questionable and insiduous methods of achieving its evil ends.

The methods adopted by the antivivisectionists to secure attention throughout the State and to obtain consideration before legislative committees are diametrically different. When operating in the State at large they rely, as experience has taught them they must rely, to secure recruits, upon perversion and exaggeration of fact regarding the manner and purposes of animal experimentation, and upon a general denial of the benefits accruing from modern medical research. On the other hand, when they are in the presence of legislators, they acquit the leaders in medical science of any suspicion of cruelty and proclaim their belief in the triumphs of experimentation; yet they urge that special legislation is required to protect the interests of the animal creation from cruel and useless exploitation by these same persons who alone, under the present law of this State, are permitted to experiment on animals. Moreover, it is the aggressive and radical societies that are responsible for such antivivisection agitation as exists in the State; and the professed purpose of these societies is first to secure by law

restriction and then abolition of animal experimentation altogether.

These disingenuous tactics have never, in the history of the antivivisection movement in this State, been so much in evidence as now, when the foes of medical science are demanding from the Legislature a commission to investigate the practice of vivisection. Let it be remembered that the persons and organizations supporting this measure are those which have unsuccessfully besought successive legislatures to regulate animal experimentation by a system of licenses and inspections, and by specifications of the purposes to be subserved by, and the manner of conduct of experiments, regulations that would be in the highest degree pernicious, and would take the control of a method of the utmost importance to human welfare, and one requiring special knowledge and skill, out of the hands of experts who possess these qualifications and would place it in charge of those who have not this technical knowledge and skill. Not those who know, but those who do not know, would be given a discretion which surely would prove disastrous to the future of scientific medicine.

It is idle to argue that no harm could possibly come from such a commission and that its deliberations would forever quell this disturbing agitation. Forty years ago this plausible argument led the English medical profession to accept, first, a royal commission of inquiry that acquitted the investigators, and then, later, fastened upon them a restrictive and highly injurious law that has proved a severe blow to British medical research; but the agitation was thereby abated not one jot and has waxed ever greater and more insistent, until English investigators have been obliged to spend almost their best energies in protecting from annihilation the fragments of freedom for research that they still possess. No proper means must be spared, no honorable effort left unexpended, in preserving this State and this country from such disasters as have overtaken England and from the benighting and blighting grasp of the antivivisectionists. Simon Flexner, M.D.

THE ANNUAL MEETING.

Although the Committee on Scientific Work had prepared an elaborate program for the 105th annual meeting of the Medical Society of the State of New York, held in Albany April 18th and 19th, there was no increase in the attendance; in fact, the registration was but 412, as compared with an average of 438 for the previous four years. This does not necessarily prove that April is not a better time for the session than January, but those interested in the future of the society must look further and plan new methods of increasing the attendance, if the society does not wish to be classed among those State organizations having the smallest number at their annual meeting. Naturally, the question arises—What can be done to change this state of affairs?

First.—Change the place of meeting. Go to different parts of the State; arouse local interests; secure the attendance of those who never come to the Albany meeting. Impress upon the profession the fact that no one place or set of men control or own the society.

Second.—Loyally support the new President, Dr. Wendell C. Phillips, in his avowed intentions to materially change the plan of meeting, in order to allow more time for papers and their discussion. Because a three days' meeting in the past did not prove successful is no argument that it will not prove so in the future. Because the society in the past was opposed to the establishment of sections is no reason why they should not be established now. Certainly the section meeting on "Dermatology," in the presidency of Dr. Curtis, was a success, and so was that on "Otology," under the presidency of Dr. Root. "State Medicine," "State Hospitals," and "Institutions" are subjects that can well be discussed, but there is no room for them in a crowded general scientific session—they must be cared for in a separate section, and, as most of this work is educational, the sessions should be open to the public.

More time must also be allowed for the sessions of the House of Delegates. That the importance of these meetings is not thoroughly appreciated is shown by the fact that there are a large number of delegates absent each year; in fact, some counties, although they have legally elected delegates, have not been represented in several years. The evening session on Monday is occupied with the reading of the annual reports and the introduction of various resolutions. Many of these are of the utmost importance to the public and the profession, and with the present plan of early adjournment on Tuesday morning after the election of officers it is impossible to have these subjects thoroughly discussed. As the adjournment is held so late at night and the House of Delegates meets so early the next morning, committees of reference do not have time to make a report; in fact, this year several questions were referred to these committees and the house adjourned before they met.

Among the important measures passed at the meeting of the House of Delegates this year were the resolutions directing the Committee on Legislation to urge the Legislature to repeal the optometry law and to secure legislation that would result in the establishment of laboratories, both pathological and bacteriological in the various counties of the State. Legislation already exists on this last subject, but the new plan might require some changes in the present laws.

All should read the annual reports of the committees, the minutes of the meeting and the resolutions passed or introduced, as it is only by reading them that those who were not present can learn what is being done by their State society. W. R. T.

Original Articles

MEDICAL TEACHING AND STATE BOARDS OF MEDICAL EXAMINERS.*

ANNUAL ADDRESS OF THE PRESIDENT.

By CHARLES STOVER, M.D.

During the past year there has been an unusual interest upon educational topics. No doubt in matters medical the Report of the Carnegie Foundation for the Advancement of Teaching upon Medical Education in the United States and Canada has been largely responsible for this. While the facts upon which the report was made were not generally questioned, the recommendations that followed were in some instances so startling that they were revolutionary, and by many considered wholly impracticable. An evolutionary movement originating within the medical profession had for some years been directed toward the elevation of medical education in the United States, and the last report to the American Medical Association by the Council on Medical Education and that by the representative of this Society to the Association of American Medical Colleges were distinctly in the line of advancement. They were not marked by excessive tenderness toward the weak institutions, and fairly indicated the relative strength and weakness of the various medical colleges. The Council cannot greatly regret the appearance of the Carnegie report, for having been criticised for its somewhat advanced position taken last year, by comparison it will be generally considered moderate, and its work in the future rendered more easy. After all, the intrinsic forces within the medical profession that have been making for higher education will eventually work out this problem, and these external influences need not necessarily hinder this result being attained, but let us remember that nature's way of advancement is not by leaps, but rather by slow and orderly evolution, and that the fittest survive.

One of the conclusions of the Carnegie report is that "the country needs fewer and better doctors, and that the way to get them better is to produce fewer. In the entire United States there is already on the average one doctor for every 568 persons, that in our large cities there is frequently one doctor for every 400 or less (Washington 1 to 270, San Francisco 1 to 370), that many small towns with less than 200 inhabitants each have two or three physicians apiece."

Will the production of fewer and better doctors create a scarcity of country physicians? It is pointed out that Johns Hopkins graduates are found in thirty-two states and territories, in towns of 50, 200 and 300 inhabitants, whence it may be inferred that the country is not likely to suffer for medical attendance. Would not many of the evils described so forcibly by Dr. Stockton in his anniversary address last year—dichotomy of fees, contract work, etc.—be lessened if competition was less intense, or starvation less threatening. The apothecary's plea in Shylock, "my poverty not my will consents" is human if not ethical. Even if it is conceded that society may "forbid a company of physicians to pour out upon a community a horde of ill trained physicians the proposition that there may be a reduction of schools in the United States from 155 to 31, without depriving of a medical school any section capable of maintaining one, is destructive enough to lead at least 124 schools to put themselves on the defensive. It will be conceded that there are advantages attaching to a medical school that has proper laboratory equipment, and likewise that a hospital under the exclusive control of the medical school must be a valuable means for the clinical instruction of the student, yet the financial resources of a majority of the medical schools will not allow any such elaboration. For instance, "A schematic outline of the laboratory year calls for at least five departments: (1) anatomy, (2) physiology and pharmacology, (3) chemistry, (4) pathology, (5) bacteriology and hygiene, subject, within limits, to rearrangement."

"The budget of a department thus organized in a medical school of, say, 250 students, favorably situated, would assign $3,000 to $5,000 a year to its head, $2,000 to $2,500 to a first assistant, $1,000 to $2,000 to additional assistants, $750 to a helper, and $2,500 to $5,000 to maintenance, including books, new apparatus, materials, animals, etc. The total, ranging from $9,250 to $15,250 still omits a proportionate share of the general overhead expense of administering the institution. A university department in one of the fundamental medical sciences, none too elaborately provided, cannot, then, on the average be effectively maintained for less than $10,000 to $15,000 per annum. At the moment, of course, the departments are not all equally expensive. Anatomy and pathology cost more than pharmacology and bacteriology. But the average is not thus seriously disturbed; for the former will extend above the line as much as the latter can be reduced below it. We may assume that the five departments of a properly organized medical school, capable of handling 125 students, in its first two years can hardly be properly sustained on a total budget of less than from $50,000 to $75,000 annually."

As to the hospital, "a plain, but serviceable structure, capable of accommodating 200 patients, with proper teaching facilities, may be erected for a few hundred thousand

* Read at the Annual Meeting of the Medical Society of the State of New York at Albany, April 18, 1911.

dollars; or it may cost millions. The cost of maintenance also fluctuates considerably according to situation and scale of support. In the city of New York, it is roughly estimated that it takes $1,000 to maintain one bed for one year; a 200-bed hospital may thus readily involve an annual expenditure of $150,000 and upwards. This sum may be reduced by profits derived from pay patients, or by small contributions from charity patients." (Carnegie Report.)

It requires but a moment's reflection to appreciate the fact that the medical schools that have the best laboratory and hospital facilities will attract the best prepared students, and it is equally true that the institutions having inadequate means of instruction will be distinguished by the inferiority of its students. It is at this point that the state board of medical examiners has abundantly justified itself. The state has assumed the right to pass upon the competency of the graduates of the medical colleges. It touches this problem at three points: (1) the preliminary educational requirements, (2) the facilities of the medical schools, (3) the examinations for licensures. The future of these boards will be marked by increasing importance and responsibility, for upon their action more than on any other agency will these problems depend for their evolution. When this is fully appreciated, nominations by this society for medical examiners will be among the weightiest duties to be performed. With the increasing importance of laboratory work, it does not require great farsight to anticipate examinations on laboratory methods, in order to guarantee fully equipped physicians for practice. It is not unlikely that a national board may ultimately be evolved that will unify the chaotic practice of the various states.

Is it not clear that if a curriculum of study is to be standardized in the medical schools, it will be equally necessary to have a standard of preliminary training in order to teach with any degree of efficiency? If so, then the entrance examination will be relied upon to stop on the very threshold, the illy prepared students.

Another interesting phase of medical education attaches to the curriculum of study. Is it not possible for a school to undertake to teach too much and for the student to think too little? Not long ago one of our popular magazines requested from its subscribers, answers to the question, substantially: What has a college education done for you mostly? One of the correspondents said that he had been busy since leaving college in unlearning what he had been taught. Probably that represented the difference between theory and practice. Why has not some one wrought out a Philosophy of Medical History, as has been done concerning religions, and the law, and general history? As was said by Roswell Park, who made the first attempt in this country to systemize this subject for teaching purposes, "the history of medicine is really a history of human error and of human discovery. During the past two hundred years it is hard to say which has prevailed." Think of the lamentable waste of effort resulting from ceaseless reiteration, that "eternal recurrence" so profoundly influencing the Neitsche philosophy. A Greek philosopher said, all things are in a state of flux; a German philosopher said, all things are in a state of becoming, nothing ever is, even in coming it passes. A wise understanding of the errors and the half-truths of our predecessors might give us all a better orientation, and direct our efforts along more productive lines. Prof. Huxley in his Johns Hopkins Inaugural, referring to the immensity of human knowledge, and the comparatively small amount to be compassed by one individual, said in substance, that if the medical student only had learned to know where to find what he wanted, he had secured an education. And this leads to the remark that in the process of education it is the function of all schools not only to *teach,* but to make the pupil *observe* and *think.* Is it not evident that the medical student coming to his special studies, trained in the natural sciences, accustomed to field work in geology and botany, in laboratories of chemistry and comparative physiology and anatomy, will have a trained observation and analytical mind that will place him at an immense advantage? Such studies serve to establish the perspective by which the relation of man to nature in health and disease is more accurately appreciated. The perspective is necessary in order to see beyond. Will not the recitation, examination and quiz develop thinking, as no didactic lecture can possibly do? It is well to think how to know; it is also well to know how to think. This process of education ought not to be confounded with research work. It is doubtful that in the limited period devoted to undergraduate studies, there is any place for real research. If the student is not taught to use his reason, to think out his problems, there is grave danger that he may not be able to stand up under the great mass of facts, fads and fancies that are piled high upon him. He becomes bewildered and impracticable.

If one were to venture a forecast of the future, it would be that a revolution is not impending, but that the intervention of the state encouraged by advanced medical opinion, will increase the importance of medical examining boards, that higher and uniform standards of admission on entrance, and more rigid examinations for licensure will eliminate the unfit, and the colleges that best provide the equipment for education will survive, and those that are inadequately equipped must go to the wall. This seems inevitable.

VENESECTION AND SALINE INFUSION IN PNEUMONIA.

By JAMES S. WATERMAN, M.D.,
BROOKLYN, NEW YORK.

THERE is little that is new to offer in the treatment of the ordinary case of pneumonia. Many cases will recover without any treatment, many cases will die, no matter what effort is made to save them. It is with some of the intermediate class of cases that we shall deal.

In my service at St. Mary's Hospital, the usual plan of treatment followed, has been to place the patient so far as possible in the fresh air. Adjoining the children's ward there is a wide veranda. The beds of the little pneumonia patients are carried out onto this veranda, and there they remain, excepting on stormy days. These children seem to like it. They cough less, and sleep more than when in the wards. The adult patients are put in an end bed in the ward, with screens on three sides, the bed being placed across and close up to the large open window, just as is recommended in the treatment of cases of pulmonary tuberculosis. In the adult cases, which are those I wish especially to discuss, each patient is studied as an individual, the only routine treatment for all being the administration of carbonate of creosote gr. v. g. 2 h., an ice bag to the head, and an occasional alcohol bath.

The intestinal tract is carefully watched. The diet is fluid and limited in quantity, a moderate amount of nourishment being given every two hours. Practically all the water they will take is given them. If there is any difficulty in getting the patient to take enough water, we order it given as a warm saline by proctoclysis after the method of Murphy.

The bowels are kept open, calomel and saline being given in the early stages and enemata later.

The rest of the treatment is symptomatic. Stimulation and vasodilators are used according to indications. An ice-bag is applied over the heart as a sedative when indicated. Rarely, when, in the very early stages, which we do not as a rule get in hospital practice, a patient's pulse is full and bounding, face dusky and breathing labored, a venesection is performed, eight to twenty ounces of blood being removed.

For pain, codeine, morphine, heroin, an ice-bag over the painful area, cold compresses, counter-irritation, or strapping are employed. Oxygen is given in selected cases; but not so much as formerly. Special symptoms are treated as they arise.

The cases of which I wish especially to speak are those in which, late in the second stage when the crisis is due, instead of defervescence setting in, such alarming symptoms develop that death seems imminent unless something out of the ordinary routine of treatment is done for them. Many of these cases will die, no matter what effort is made to save them. There are a few patients, who at this stage will have a full, bounding, rapid pulse, labored breathing, with or without a commencing pulmonary edema, marked cyanosis, and active delirium or unconsciousness, and who do respond to treatment. All are desperately ill, and some of them apparently moribund. It is the patients who are in such a critical condition, that I desire to discuss, and try to arrive at some fair estimate of the value of the attempts made to save these lives. All of the details have been carried out before, but I think not in just the same way as I shall describe.

In reporting these cases, I have included three which lead up to the others.

CASE I.—January 23, 1906; Marie B., 14; United States; school. Family history negative.

Previous History.—Measles and pertusis at 8 years. Attack of simple jaundice six months ago.

On January 20th the patient had a chill and chilly feeling lasting about two hours; this was followed by severe pain over base of chest on both right and left sides, cough and profuse rusty expectoration. Appetite was poor; bowels constipated.

General Condition.—Examination of chest showed the classical signs of consolidation over both lower lobes. Heart rapid, no murmurs; pulse 104, temperature 103, respirations 36. Patient well nourished; expression anxious; not delirious.

This patient became rapidly worse; pulse full and very rapid, 132 to 145. Respirations, 40 to 42. Temperature, 103.5 to 104. There was a very marked delirium. On the morning of January 25th conditions were so bad, and with pulmonary edema setting in, that, although it was the fifth day of the pneumonia, I ordered a venesection performed. Seven and a half ounces of blood were taken from the median basilic vein. There was an improvement in the edema and the general condition that afternoon. On the 26th the edema again became marked, but the patient responded to stimulation, cupping and enemata. On the morning of the 27th there was a marked improvement in the pulmonary edema; the cyanosis was less, and the general condition was better. That evening the patient defervesced, and went on and made an uneventful recovery. All of the staff at the time felt that the venesection was the turning point in the case.

CASE II.—January 25, 1906. Lawrence S., 61; married; cigarmaker. Entered hospital January 25, 1906. Family history negative.

Personal History.—Usual diseases of childhood. Rheumatism ten years ago. Heavy drinker and smoker.

Present Illness.—Three days ago was suddenly seized with chill, pain in right axillary line, cough

with blood-tinged expectoration. Became very delirious. A dark purplish flush appeared over the face. Marked dyspnea was present. Respirations 40, pulse 124, temperature 103. Mucous membrane cyanotic. There were the usual signs of consolidation over the whole right side. The heart was rapid and fairly pounding the chest wall. Second sound, accentuated; no murmurs. Abdomen, distended and tympanitic. On the afternoon of January 26th the dyspnea, cyanosis and delirium were so marked and the pulse full, bounding and rapid (145) that a venesection was ordered. Seventeen ounces of extremely dark blood were removed, and the pulse rate fell to 120, but remained still strong.

There was an almost immediate improvement in the patient's condition. The delirium became less violent; there was great improvement in the comfort of the patient; the temperature fell to 101.8; respirations were easier; and there was less cyanosis. This condition of improvement continued for twenty-four hours.

On January 28th, the respirations became rapid and labored, pulse rapid, weak and intermittant. On January 29th, hypodermoclysis was given, with marked improvement in the character of the pulse. On January 30th, the patient developed an acute inflammatory condition of the left side of the lower jaw, and died that night.

In this case there was improvement in the patient's condition following both the venesection and the saline by hypodermoclysis.

Case III.—March 10, 1906. Marie C., 43; Ireland; housewife. Family history negative.

Previous History.—Six children; two miscarriages. Drinks beer moderately. Never sick before.

Present illness commenced with symptoms of grippe two weeks ago. Complained of great pain and distress in right side, with cough and shortness of breath.

Physical examination showed patient well nourished; not delirious, expression anxious, marked dyspnea and cyanosis. Cough and rusty expectoration. Pulse 120, respirations 36, temperature 102.4. A systolic murmur was heard over the precordial area and at the apex.

The signs of consolidation were dullness, bronchial breathing and subcrepitant rales over right lower lobe. The marked feature here was the extreme distress and discomfort of the patient. Every breath was painful. The cough was very distressing and the picture of suffering was extreme.

On March 11th, the pulse being 136, full and bounding, with marked tension; temperature 105 and respirations 46, a venesection was ordered. Sixteen ounces of blood were removed from the median basilic vein, and twelve ounces of hot saline solution were introduced into the vein.

The patient rested well after the operation. In about two hours she had a slight chill, followed by a profuse perspiration. The temperature fell to 100.4, pulse 120, respirations 32. The patient at this time was entirely comfortable, and although she gradually sank and died on March 14th, we felt that the venesection and saline had relieved her of days of intense suffering, even though we had been unable to save her life.

Case IV.—William G., 39; married; Ireland; driver. Entered hospital March 5, 1906. Family history negative.

Previous History.—Had usual diseases of childhood. During adult life had been perfectly well. Alcohol moderate, tobacco excessive.

Present Illness.—On March 1st was suddenly seized with a chill and great prostration. There were general muscular pains, sharp pain in the left side, headache, high fever, cough and some expectoration. Since then the pain, prostration and cough increased and the expectoration became rusty.

Physical Examination.—Patient is a large, splendidly developed man; not delirious; expression anxious; cheeks flushed; tongue moist. Dullness, bronchial voice and breathing, and subcrepitant rales are heard over the whole of left chest. Over the right chest there are crepitant rales heard over most of the pulmonary area. Heart rapid; no murmurs.

On March 6th there were signs of a commencing edema of right lung. There were marked delirium, cyanosis and dyspnea. A. M.—Pulse 96, respirations 36, temperature 101.4. P. M.—Pulse 100, respirations 44, temperature 104.6. On March 7th the situation remained about the same. On March 8th the early afternoon temperature was 105.2, pulse 124, respirations 52.

The late afternoon temperature was 106.2, pulse 148, respirations 48. The case at this time presented the typical picture of a moribund patient. He was entirely unconscious; both lungs were filled with mucous rales; cyanosis was marked, breathing was rapid and labored, the pulse was full and rapid and the temperature was above 106. It did not seem that the patient's life could exist for more than a few hours. With that character of pulse, I determined to use the venesection and saline. Eighteen ounces of extremely dark blood were taken from the median basilic vein, and sixteen ounces of hot, normal saline solution injected.

In about two hours there was a chill, followed by a profuse perspiration, the temperature falling gradually until early on the following afternoon; the temperature was 99.4; pulse, soft, 115; respirations 35. Very slight delirium was present. The edema and cyanosis were much less and respirations easier. We then observed a rise in temperature, so that late in the afternoon it reached 104; pulse 132. Edema and cyanosis increased and patient again became very delirious. A venesection was again performed. Eleven

ounces of blood were removed and sixteen ounces of normal saline solution injected. The pulse fell to 120, a chill following, lasting twenty-five minutes. On March 10th there was a marked improvement in the patient's condition. Edema and cyanosis were much less and the mental condition was much improved. Temperature 100.8, respirations 32 and pulse 96.

March 11th, edema disappeared, patient rational; temperature 99.8, respirations 30 and pulse 92.

From this on the patient gradually returned to normal, and was discharged cured.

Case V.—Anna M., 18; Germany; domestic. Entered hospital, November 2, 1906.

Previous History.—Measles when a child. No other illness.

Present Illness.—Four days ago patient was taken sick with a severe chill, followed by fever, a sharp, cutting pain in right side, cough and brownish-colored expectoration. Temperature, on admission, 104; pulse 130, respirations 40.

Physical Examination.—Patient well nourished. Cheeks flushed, eyes clear, expression bright, but not anxious and troubled. Pupils react to light and accommodation. Tongue moist and coated.

Lungs.—There is dullness on precussion over the left lower lobe, beginning at the angle of the scapula and extending to the base. Vocal fremitus is increased and there is bronchial voice and breathing; dry crepitant and subcrepitant rales are heard over this area. November 4th, there is a dullness over the right upper lobe, with bronchial voice and breathing and crepitant and subcrepitant rales heard over this lobe.

Heart is enlarged, apex 4½ inches from the midsternal line. There is a loud, blowing systolic murmur heard at the apex, transmitted to the left axilla, and also transmitted through the chest and heard plainly at the back. The heart's action is rapid, but strong and regular. The pulse is soft, full, rapid and regular. Abdomen negative. Urine cloudy, amber, 1020, acid, no sugar, marked trace of albumen, no casts.

This patient did fairly well until November 6th, when she became very restless; respirations became rapid and labored; the pulse became very rapid; and there was a constant cough without expectoration. At 12 o'clock midnight, the pulse was 160, respirations 60, and temperature 104. The girl seemed in a dying condition. Twelve ounces of dark blood were taken from the median basilic vein, and 1000 c.c. of normal saline solution were injected into the vein. After the intravenous infusion, the patient revived somewhat; the pulse was not so rapid, and was of a good character. Patient had a very slight chill at 2 A. M., lasting only a few minutes, and then commenced to perspire freely.

At 4 A. M., pulse was 132, temperature 102.4, respirations 48. At 8 A. M., November 7th, temperature 98.4, pulse 120, respirations 40. Cyanosis cleared up, and patient went on to complete recovery.

Case VI. (Service of Dr. J. D. Sullivan, by whose courtesy I report it.) Frank F., 31, married, laundryman. Admitted to the hospital April 7th, had usual diseases of childhood. Rheumatism two years ago. Smokes and drinks to excess. Present illness: April 2d, had a distinct chill, followed the next day by pain in right chest; worse on inspiration; cough with blood-streaked expectoration; fever and delirium. Bowels constipated.

Physical Examination.—Patient poorly nourished and poorly developed. Emaciation marked. Eyes dull; pupils equal, and react to light and accommodation. Tongue moist and coated. Mucous membrane pale; teeth poor.

Lungs.—Dullness on precussion over whole of right side. Vocal fremitus increased. Bronchial voice and breathing. On the left side there are subcrepitant rales at apex and crepitant rales at base.

Heart.—Apex in fifth space, in the nipple line. No murmurs; second sound accentuated. Abdomen negative. On admission, which was the fifth day of the disease, the temperature was 102.6, pulse 128, and respirations 40.

The patient went on until the ninth day of his pneumonia, the temperature not rising above 102; pulse 100 to 130. Then, on the night of April 11th, the ninth day of the disease, his temperature shot up to 104; pulse 150, and respirations 50, combined with commencing pulmonary edema. A venesection was done, twelve ounces of blood were drawn from the median basilic vein; and sixteen ounces of normal saline introduced. There was almost immediate relief. The edema subsided, and the temperature fell the next day to 101.2. On April 14th, the temperature was 99.8; on April 16th, 98; and the patient went on to recovery.

Case VII. (Consultation, Dr. J. C. MacEvitt, December 22, 1906.) C. W. L., 35, married, broker. Family history negative.

Previous History.—Operation for appendicitis a year and a half ago. Is a moderate drinker.

Present Illness.—Three days ago had a slight chill. There was pain on the right side from axilla to border of ribs. Cough first with bright red, and later with rusty expectoration. Some delirium. Temperature running between 102 and 104.

Physical Examination.—A fleshy thick set man of middle age. Is somewhat delirious; tongue moist and coated. Dullness over right lower lobe, with bronchial voice and breathing and numerous subcrepitant rales. Liver enlarged. Heart negative. Pulse full and bounding 132. Urine showed albumen 20 per cent. with many granular and hyaline casts. On December 26th, the patient was

doing badly, with increasing delirium, a rising temperature, and increasing rapidity of the pulse. A venesection was done, twenty ounces of blood were withdrawn, and sixteen ounces of saline administered intravenously. There was no reaction. The patient's temperature continued to rise, and he died that night. I did not consider this case a promising one, as the kidney complication rendered it hopeless from the start.

Case VIII. (Seen with Dr. Mark Manley.) P. J. B., 35, married, clerk, June 1, 1909. Family history negative. Previous history negative. Denies tobacco and venereal diseases.

Had chill yesterday, with pains all over body, and sharp pain in right side. Severe cough with bloody expectoration. High fever and prostration.

Physical Examination.—Patient well nourished, well formed man of apparently thirty. Cheeks flushed, tongue moist and coated. Not delirious.

Heart rapid and weak. No murmurs. Respirations moderately rapid. Dullness, with slight bronchial voice and breathing and subcrepitant rales over right base. Abdomen negative. Sputum rusty; cough moderate. Temperature 104, pulse 116, respirations 28. Urine, dark amber, acid, no albumen.

I saw the patient again on June 5th, the sixth day of his illness. His face was dusky, eyes bright and peering constantly into every corner of the room or throwing a quick glance at the window. He was very delirious, and thought that he was being pursued. This is the type of patient that must constantly be watched, in order to prevent them throwing themselves out of the window. His temperature was 103, pulse 138, respirations 40. The whole right side showed signs of consolidation. He looked like a patient who was rapidly nearing the end. Although his pulse was rapid, but not bounding, it was of fair tone; and I felt that venesection and an intravenous infusion would give him his only chance. At 12 o'clock, fourteen ounces of blood were removed from the median basilic vein and sixteen ounces of normal saline solution injected. At about 2.30 o'clock, the patient had a severe chill, his temperature rose; pulse became rapid and weak; and signs of pulmonary edema developed.

At 4 P. M., the temperature was 106, pulse 170, and the patient was apparently in collapse. He reacted well to stimulation, a free perspiration appeared, and at 6 o'clock temperature was 101, pulse 146, respirations 36. At 10 o'clock, temperature was 99.5, pulse 110, respirations 30. Delirium entirely disappeared.

The following day the temperature varied from 101.4 to 102.6, pulse 112 to 120, respirations 32 to 34. The second day, June 7th, signs of consolidation appeared in the left upper lobe, but at no time did the symptoms become alarming, and the patient's temperature became normal June 13th.

This case had us badly worried. The collapse was so marked, the temperature so high, the heart so rapid and weak, and the edema and general condition so alarming, that it did not seem possible for the patient to recover. That he did recover, is perhaps the justification of the treatment, for his condition before the venesection and intravenous infusion seemed hopeless. An interesting thing in this case was the immediate restoration of his normal mental condition upon the fall of temperature. During the following trying week his delirium did not return.

We have here eight cases, all of which seemed hopeless, with five recoveries. Hare says, "that in cases in which the heart is laboring, where there is evidence of dilatation of its right cavity, with pulsating jugulars, and other evidences of venous stasis, free venesection may be practiced to advantage, and sometimes gives wonderful relief.

"The value of salines depends upon the degree of toxemia which is present, and upon the activity of the kidneys. If, in a given case, the urinary secretion is scanty, and toxic symptoms develop, a pint of normal saline solution may be given by hypodermoclysis every six or eight hours, for twenty-four hours with advantage. Direct infusion of a saline solution into a vein is probably not advisable in the majority of cases, since it is usually absorbed with sufficient rapidity from the subcutaneous tissues." Osler says: "Pneumonia is one of the diseases in which a timely venesection may save life. To be of service, *it should be done early.*

"In a full-blooded, healthy man with high fever and bounding pulse, the abstraction of from twenty to thirty ounces of blood is in every way beneficial, relieving the pain and dyspnea, reducing the temperature, and allaying the cerebral symptoms, so violent in some instances. Unfortunately, bleeding is now too frequently used at a late stage in the disease, when the heart is beginning to fail, the right chambers are dilated, the face is of a dusky hue, the respirations are very rapid, and there are signs perhaps, of edema of the uninvolved portions of the lung. Though resorted to rather as a forlorn hope, it is a rational practice, and, in emphysema and in heart disease, proves satisfactory under identical hydraulic conditions, but, unfortunately, in a majority of the cases of pneumonia it proves futile. Time and again, in such cases, have I urged free venesection, but in twelve hospital cases bled under these circumstances, only one recovered."

In Case I, venesection was performed on the fifth day with marked benefit to the patient, followed by recovery.

In Case II, a man of 61, venesection was done on the fourth day. Marked improvement in the patient's condition followed, lasting twenty-four hours. Hypodermoclysis was given on the sixth day and was followed by improvement, which lasted until a complication set in, and the patient died on the eighth day.

Case III, was that of a woman who said she was 43, but had the appearance of a woman much older. No definite date was determined regarding the pneumonic process, but we judged it to be about the seventh day. Venesection and intravenous infusion were followed by marked improvement in pain and distress; and the general condition improved; but the patient died three days later.

Case IV.—Venesection and intravenous infusion on the eighth day and a second venesection and intravenous infusion on the ninth day were followed by recovery.

Case V.—Venesection and intravenous infusion on the eighth day. Defervescence on the ninth day. Recovery.

Case VI.—Venesection and intravenous infusion on the ninth day. Defervescence complete on the fourteenth day. Recovery.

Case VII.—Venesection and intravenous infusion on the seventh day. Complicating nephritis. Death.

Case VIII.—Venesection and intravenous infusion on the sixth day were followed by collapse, reaction and recovery.

Authorities say that old people, do not stand venesection well. The two oldest patients, while they stood the venesection well and improved after it, did not recover.

Case VIII, with complicating nephritis, died. While several of the five recoveries, showed traces of albumen in the urine, it does not seem to have possessed much significance. The venesection relieved the engorged, overworked heart, and removed a certain amount of blood loaded with toxic material.

The intravenous injection of the saline, diluted the toxic blood stream, and possibly acted as a stimulant to the heart and other organs.

In all cases the infusion was followed in about two hours by a chill of varying severity. The physiology of it, I do not attempt to explain.

All but one infusion were followed by a profuse sweating and fall in temperature. I was induced to introduce the saline intravenously, because of the pain, discomfort, and uncertainty of absorption by hypodermoclysis.

Osler says that, "during the last decades, we have certainly bled too little." I feel that he is quite right in that statement, and that in selected cases, a venesection, at the right time, coupled with saline solution given intravenously, may save many of these pneumonic cases.

AN IMPROVED METHOD FOR THE EXTRACTION OF THE IMMATURE CATARACTOUS LENS.*

By HOMER E. SMITH, M.D.,
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PERHAPS there is no more distressing condition which confronts both patient and oculist than when, in early manhood, a sufferer from immature cataract presents himself for treatment. It is distressing to the patient because accurate vision is becoming difficult and distressing to the oculist because he knows the difficulties which attend any operative interference at this stage of the cataractous process and the subsequent dangers which ensue upon an incomplete extraction of the lens. Rare indeed is it that the lens extrudes without tedious, forceful and risky manipulations, not infrequently is there loss of vitreous and almost certain is there left behind much transparent lens matter to set up irido-cyclitic disturbances and by proliferation to create a dense secondary capsular cataract. That these things are true witness the many procedures which have been adopted for the artificial maturation of the opacifying lens and the various operations for extraction in the capsule both of these having as their chief aim, either later or at once, the complete evacuation of all cortical matter. Opinions differ as to the value of the various methods for artificial ripening of the cataract but these have fallen almost completely into disuse, the results showing that if gentle massage of the lens be employed little or no effect is obtained and if more vigorous there is serious danger of an inflammatory reaction following. From Pagenstecher to Lt. Col. Smith, of Jullundur, there have been surgeons who have devised or modified operations for the removal of the lens in its capsule, the very latest being one in which a vacuum cup is applied and the lens removed by suction. It is admitted by all ophthalmologists and it is self-evident that the removal of all media which are opaque or may become so is the one great desideratum in cataract extractions provided that this can be done without immediate damaging traumatism or that the future integrity of the eye be not jeopardized thereby. Do these provisions apply to the operation for extraction in the capsule? Personally I do not think they do. The one essential feature in all its many forms is a tearing or forcible rupture of the zonula. Whatever may be the percentage at the hands of especially trained operators it does not need any argument to prove that a force sufficiently great, to rupture the zonula, applied from behind (for the resultant force must come from this direction) must, of necessity, involve a greatly augumented risk of loss of

* Awarded the Lucien Howe prize by the Medical Society of the State of New York, April 17, 1911.

vitreous. Should this loss be great it is an immediate and damaging traumatism. Should it not occur at all is not the forcible traction exerted through the suspensory ligament on the ciliary body a menace to the future integrity of the eye? I think it is, so while the first of the factors in an ideal extraction, the complete removal of all opaque or opacifying media, is fulfilled, the two equally important ones of immediate or subsequent safety to the eye are not. It is to be understood that the operation to be described is applicable to immature cataracts occurring at any age. Few surgeons now hesitate to operate in these cases in patients over sixty and by the usual methods for at this age most of the accommodation is lost and the lens even while not wholly opaque is hardened in its entirety and may be removed with little chance of leaving cortex behind. Without going into the many arguments for or against the simple versus the combined operation for the extraction of cataract my own preference is for the simple and where there is a mobile and dilatable pupil and with normal tension such eyes are operable by the method I adopt in 95 per cent. of the cases. Occasionally where exceptional difficulties are anticipated a preliminary iridectomy is performed and this is much the wiser method if it is to be done at all. Here too there is room for argument, but to my mind the weight of evidence is much in favor of this contention. It is understood that we are dealing with a lens more or less clear but sufficiently opaque to interfere with comfortable vision, that the tension is normal, that there is no infectious disease of the lids or lachrimal apparatus and that there is a mobile and dilatable pupil. It is assumed that the proper preparatory treatment has been given and that the technique of asepsis has been rigidly followed. In working out the details of this operation it was found that the knife-needle was rarely sufficiently sharp clear up to the point, that its shape made it catch in the lens and if great care was not used the lens was apt to be dislocated. To make it more effective for the purpose intended the point was ground off making the blade the shape of a miniature scalpel. The shank was made of equal size throughout so that it should fill accurately the puncture made by the cutting surface. Previous and immediate to the operation itself the pupil is fully dilated by a 2 per cent. solution of homatrophine. The eye is then cocainized, the aseptic details completed and the speculum inserted. If for the right eye the operator stands at the head of the patient. Taking a firm and deep grasp, with the fixation forceps, upon the conjunctiva just below the insertion of the internal rectus muscle, the knife above described is thrust through the cornea about the middle of the supero-temporal quadrant and the blade carried down to the lower edge of the dilated pupil, its edge being toward the operator. The handle is then made to describe the arc of a circle away from the surgeon and a cut is made through the capsule up to the upper limit of the pupil, the blade then slightly withdrawn is carried over to the inner side of the mid-pupillary space, the same maneuver repeated and a cut made in the capsule at right angles to the first. The blade is then turned into the same plane as its entrance and is withdrawn. If for the left eye the operator stands on the left side of the patient the fixation is just above the internal rectus and the knife entered in the infero-temporal quadrant, the cut in the capsule then begins at the upper limit of the pupil. The procedure otherwise is the same. After the capsulotomy the conjunctival sac is flushed with an antiseptic lotion, the patient given a hypodermic of ¼ grain of morphia and put to bed. He is allowed to remain there from four to six hours before the extraction proper is performed. This does not differ from the ordinary method but the corneal section should be ample for most immature cataractous lenses are large. The period of waiting and the method of the capsulotomy are the two essentials of this operation. What happens during the waiting period is this. The capsule having been amply divided curls away from the cortex and allows the aqueous to insinuate itself between this and what remains of the enveloping capsule causing a separation between the two. That this is true is seen by the ease with which the later delivery of the lens is always accomplished and its clean, full and smooth outlines when it does come out. Never has there been met with a lens that sticks and the operator after this method will be astonished and gratified to find how gentle only need be the manipulation to cause the lens to extrude. It is admitted by all experienced oculists that the most important step in the extraction of cataract and incidentally the most difficult is an efficient and ample capsulotomy. Too small a corneal section makes the delivery of the lens difficult; an inefficient capsulotomy makes it impossible. In the ordinary capsulotomy some of the difficulties come from the instrument itself but more and greater ones from the conditions under which it must be used. The straight capsulotome is kept sharp with difficulty. It cuts only when drawn toward the operator, at right angles to this it simply scratches. As soon as the section is made the iris contracts, the lens comes forward and the anterior chamber is abolished. Into this narrow space must be passed a straight instrument between cornea and lens; it is impossible to do this and reach below the center of the lens without pressing it more or less backward and at this stage the lens, held only by its suspensory ligament, is

mobile and easily dislocated. More than this, the operator in his zeal to make an efficient opening in the capsule is apt to rupture this ligament and loss of vitreous ensues. There are no means of knowing that the capsulotomy has been inadequately performed until the lens when pressure is applied to the globe refuses to present in the section. In this event either the fixation forceps must be reapplied; a difficult and dangerous thing to do on an opened eye, or the cystotome reintroduced without its help trusting to the patient keeping still. The pupillary space being narrowed by the contraction of the iris leaves insufficient room to work in and it is a difficult matter not to wound the iris or entangle it in the tip of the instrument. If the bent cystotome of Knapp is used then are these difficulties enhanced and not only is there greater difficulty in removing fragments of cortex but a peripheric capsulotomy leaves two thicknesses of lens capsule in the pupillary space and more often is required a secondary operation. Should blood enter the anterior chamber then are the difficulties before mentioned still further increased. None of these difficulties accompany a preliminary capsulotomy as described in this essay. 1. The knife needle can be made superlatively sharp and efficiently cuts the capsule in both directions. 2. Only through the grossest carelessness can the suspensory ligament be ruptured or the lens dislocated for it is held firmly in place by the vitreous behind and the aqueous in front. 3. Ample space is given through the dilated pupil and the point of the knife may be kept fully in view during the division of the capsule and furthermore the operator has the satisfaction of knowing that this is perfectly performed. 4. The iris cannot be wounded or entangled in the instrument and there can be no bleeding to obscure the field of operation. In brief it simplifies and makes certain a step in the operation which is usually fraught with difficulties and dangers.

EARLY FUNCTIONAL DANGER SIGNALS IN ABDOMINAL DISEASE.*

By RUSSELL S. FOWLER, M.D.,
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THE investigation of disturbance of function is of the utmost importance in the early recognition of many diseases. In some diseases, especially those of the gastro-intestinal canal, comparatively insignificant disturbances of function furnish the only clues by which we may suspect the existence of a serious lesion. By an intelligent interpretation of these disturbances operative interference may be advised at a time when such interference will be of avail.

It is not my purpose to consider all the diseases in which comparatively trifling disturbances are the forerunners of serious disease but to consider a few of the diseases in which failure to properly interpret these early symptoms will almost invariably lead if not to the death of the patient, at least to a condition of invalidism.

The more one sees of abdominal surgery the more one comes to believe that certainly a majority of the so-called functional disturbances of the stomach are due to organic changes in either the stomach, duodenum, gall bladder, appendix or pancreas, and the further one analyzes these cases the more evident it becomes that the cause of the stomach symptoms more often resides in the other organs mentioned than in the stomach itself. The masterly work of Moynihan has brought order out of chaos so far as regards one of these conditions, duodenal ulcer. I believe it is only a matter of time when a close study of a large number of early histories of the other conditions mentioned will result in correlating the symptoms of each in the same manner as Moynihan has done in the case of duodenal ulcer. The final result will be that physicians will universally come to recognize that purely functional disturbances are rare and that so-called functional disturbances are really organic changes in the organs, readily recognized by a proper correllation of the early symptoms.

It is to the family physician that patients first complain of what may seem to them a comparatively trifling interference with the function of some organ. These apparently trifling interferences with function are often the forerunners of most serious disease. An immense responsibility therefore rests upon the physician and he should investigate most carefully any disturbance of function. He should disabuse his mind of the text-book picture of disease and remember that by the time all the classical symptoms have developed many cases will be beyond help. He must learn to diagnose serious disease upon the earlier symptoms of disturbance of function and by means of the various methods of special investigation to decide early in the course of the disease as to its nature. Only by pursuing such a course can many otherwise necessarily fatal cases be saved.

As a case in point consider the early diagnosis of *acute intestinal obstruction*. A reference to the recent text-books will show that much stress is placed upon the advanced symptoms of the lesion and pages written about the differential diagnosis of the varieties of obstruction while the initial symptoms are rarely emphasized. Would it not be better to teach the diagnosis of the disease in the way it occurs clinically, not as a complete picture at first but as a sequence of symptoms, for instance: acute intestinal obstruction is shown by sudden severe, at times agonizing, abdominal pain, cramplike in character, with recurring efforts at peristalsis due to the attempt on the part of the bowel

* Read before the Williamsburg Medical Society, Feb. 13, 1911, and by request before the Medical Society of the County of Kings, April 18, 1911.

above to force its contents past the obstruction. With these two symptoms is associated a degree of shock. These symptoms mean acute intestinal obstruction.

Cancer of the Esophagus.—Difficulty in swallowing is the first symptom of disturbance of function. From 60 to 90 per cent. of patients presenting these symptoms are victims of cancer.[1] This symptom may suddenly disappear, due either to ulceration or more probably to the subsidence of the spasm which is associated with the disease. The disappearance may be for a considerable time and is responsible for the majority of delayed and erroneous diagnoses. All other symptoms which may confirm the diagnosis are late symptoms and occur after the disease has passed the curable stage. If the lesion is extra esophageal other symptoms usually *precede* the difficulty in swallowing. The later symptom of pain indicates that the disease has spread beyond the esophagus; the esophagus being insensitive except to stretching

The course to be followed by the physician is plain. Patients presenting difficulty in swallowing not assignable to foreign bodies or recent burns, should be advised to have an immediate esophagoscopy. If a carcinoma is found as will usually be the case an immediate resection should be insisted upon. The contribution made by Sauerbruch to intra-thoracic surgery allows us to hold out some degree of hope to these otherwise doomed patients. Even this hope is only possible early in the course of the disease.

Carcinoma of the Stomach.—Records show us deplorable results. Why? Not because the patient did not have symptoms for months before being operated upon but because these symptoms were not properly interpreted. Here again the physician has been wrongly taught. To wait in these cases for the classical symptoms is to allow the patient to die. Too much stress has been placed on gastric analysis. Too much time lost in treatment of the early disturbances of function. Too much time lost waiting for a tumor to develop. Three years ago before this society in a discussion on carcinoma of the stomach, I related that of forty cases of carcinoma of the stomach of which the records were available not one had been sent to me early enough for a resection. I have not looked up my complete records but can only remember a few cases which have allowed of resection. This condition of affairs is deplorable. Just so long as the present text-book teaching of carcinoma of the stomach is permitted just so long will patients look in vain for relief. The early symptoms of slight disturbance of gastric function must be emphasized.

When a previously healthy patient passed forty years presents symptoms indubitably gastric in origin, however slight these symptoms may be, which do not yield entirely to dietetic and therapeutic treatment in less than a month's time it is reasonable to suppose that a cancer of the stomach is present.[2] The physician's duty is plainly to advise an exploratory laparotomy. If the classical symptoms are waited for or a laboratory diagnosis insisted upon, the case will have passed beyond aid.

That some of these disturbances may be due to gall bladder or appendical affections is true, but it is also true that these affections are better treated operatively, and that an exploratory operation will reveal the lesion.

Duodenal Ulcer.—Duodenal ulcer is very much more common than has been supposed. With few exceptions all cases present symptoms which are definite, not easily mistaken and appear in an order and with a correlation which is characteristic.

The first symptom of duodenal ulcer is a sense of discomfort either of weight, oppression or distention in the epigastrium some time after eating. This is noticed after a hearty noon-time or evening meal, rarely after breakfast at first. After an interval the discomfort becomes more pronounced and in time amounts to severe pain. As this occurs it is noted that the discomfort or pain occurs at a regular time, usually two hours after eating. The time depends upon the character of the meal and the proximity of the ulcer to the pylorus. If the food is of the kind which leaves the stomach quickly the pain will appear sooner. Eating relieves the pain. The pain comes on after meals for a period of days, weeks or months, then disappears to again appear after a period of quiescence.

Such are the symptoms characteristic of duodenal ulcer. They are absolutely diagnostic.[3] All other symptoms are later manifestations. Treatment should not wait upon them. They may continue in so mild a form as to pass for slight functional derangement or be so severe as to incapacitate; but however slight they are the danger signals of what may become a disaster by hemorrhage or perforation. Other symptoms such as point tenderness may be present but are not essential to diagnosis. Vomiting is a symptom of pyloric stenosis or spasm not necessarily present in duodenal ulcer to an extent to cause vomiting; hemorrhage large or small is a sign of deep ulceration.

Here again the duty of the physician is plain. The early slight correlated symptoms of disturbance of function should be recognized in their incipiency for what they are,—absolute evidence of duodenal irritation. Immediate dietetic and medicinal measures should be insisted upon. If the discomfort recurs or increases the danger of the disease should be explained to the patient and operation advised. If there are increasingly severe recurring attacks operation is imperative.

Acute Pancreatitis.—Symptoms: Sudden

[1] Cooper. Amer. Journ. of the Med. Sciences, 1910, vol. cxxxix, No. 2, p. 221.

[2] G. R. Fowler, Brooklyn Medical Journal, January, 1906.

[3] Moynihan, Lancet, 1910, No. 4505, p. 21.

agonizing pain in the epigastrium, prostration, subnormal temperature, slow pulse, in some cases dusky appearance of the skin of the face and upper half of the body.

There are certain diseases which so far as our present knowledge goes give practically no understandable danger signals of disturbance of function. Such a disease is *acute pancreatitis.* It is possible with all the investigation that is being done in correlating early symptoms that the occasional attacks of "indigestion" which precede acute pancreatitis in very many cases may in time be proved to be either dependent on a beginning functional disturbance of the pancreas itself or be proved a functional disturbance of the gall bladder and ducts which in their turn have their effect in producing the acute condition in the pancreas. The latter supposition will probably be proved the correct one when we consider that as stated by Ochsner[4] chronic pancreatitis is practically always a complication of gall bladder disease except when it follows metastatic infection.

Gall Bladder Disease.—Pain is the one symptom common at some time to all forms of gall bladder disease. It is usually the first symptom which calls the patient's attention to the disease. The pain is most severe in the epigastrium radiating to the back. It is the danger signal of diseases of the gall bladder and ducts. All other symptoms are secondary to it. Symptoms preceding the pain indicate extra gall bladder or duct disease attacking the parts considered secondarily. As an example of the latter we see cancer of the liver attacking the gall bladder and ducts secondarily in which the jaundice may precede the pain.

The severity and location of the pain varies according to the part of the biliary apparatus affected.

The character of the pain varies from the simple discomfort of a temporary distension of the gall bladder such as is seen in serious cholecystitis in which there is a moderately severe cramp in the epigastrium associated with a slight feeling of pressure in the region of the gall bladder to the violent pain and exquisite tenderness of acute suppurative cholecystitis. There are other areas of referred pain according to the location of the inflammation. There are other symptoms but they are secondary and depend upon the presence and location of obstruction or the attendant inflammation. The early symptoms which are diagnostic of disturbance of function of the gall bladder and ducts are repeated attacks of cramplike pain mild or severe in the epigastrium and radiating to the back.

Appendicitis.—From an examination of the records of my last thousand cases of appendicitis I am impressed with the belief that the diagnosis of appendicitis can be made in the majority of cases with a fair degree of certainty before the disease has advanced sufficiently to cause pain in the right iliac fossa. The early symptoms are sudden gradually increasing pain, not necessarily severe, in the epigastrium or above the umbilicus with some diffuse abdominal pain not accompanied by tenderness. If food has recently been partaken of the stomach is emptied by vomiting. The symptoms persist for a few hours, then disappear not to return for a variable length of time. These symptoms recurring from time to time in a child or young adult and not directly assignable to other causes are the early symptoms of appendicitis. Many times I have operated soon after these symptoms and found indubitable evidence of recent inflammation of the appendix.

Carcinoma of the Large Intestine.—The early symptom is gradually increasing constipation in a previously healthy individual. There may be alternating periods of diarrhœa if medication has been indulged in. If the bowels have been previously constipated the constipation becomes more severe. This symptom alone is enough to awaken suspicion whatever the age of the patient and when occurring in an individual past thirty-five and not speedily clearing up under medical treatment there is reasonable certainty that the cause is cancer.

By the time these cases get to the surgeon acute obstruction has usually supervened. Many cases of malignant disease of the large intestine come to me with a history of gradually increasing constipation. An abdominal examination reveals a tumor. It is reasonable to suppose in these cases that if when the constipation occurred, or if always present when it was becoming more marked, had an X-ray plate been made the disease would have been recognized before it had attained an advanced stage.

Carcinoma of the Rectum.—Here the most lamentable errors are made. The early symptom is interference with defecation. The patient thinks he has hemorrhoids and consults a physician who fails to make a digital or proctoscopic examination. An ointment is prescribed and the patient goes on for some months until his condition becomes intolerable. It is reasonable to suppose that had the apparently trifling interference with defecation or rectal distress been inquired into thoroughly at first that an examination would have revealed the condition in an easily operable stage.

Conclusion.—Apparently trifling errors in function should be promptly and thoroughly investigated. In many instances they will be found to be precursors of serious disease of a nature which without proper operative treatment will result disastrously for the patient either through death or through producing a condition of chronic invalidism, or at the very least will result in impaired usefulness.

[4] J. of Am. M. A., 1910, No. XXII, p. 1776.

Medical Society of the State of New York

REPORT OF THE PRESIDENT.

To the House of Delegates:

Since the previous annual meeting of this society, its president and four ex-presidents have passed away. We all regret that by the death of Dr. Jewett we are at this time deprived of an opportunity to listen to an address such as his ripe experience and wide information would have ensured. A fitting tribute by an appointed committee has been published. No honor to him could be too great, no good said that is not richly merited.

The scholarly addresses of Dr. William S. Ely, written in a style far too rare among physicians, will long remain among the treasures of this society. His presence will be missed in the professional activities of the state and in our own midst.

The career of Dr. Willis Goss Macdonald was most untimely ended when he was anticipating the most serious work of his life, curtailing a large surgical practice in order to devote more time to the teaching of surgery. This community and his college have suffered a great loss by his demise.

The services of William Warren Potter as editor of the *Buffalo Medical Journal* and as a member of the New York State Board of Medical Examiners, and of the national organization likewise, were marked by loyalty to the medical profession and its higher advancement. As secretary of the American Association of Obstetricians and Gynecologists, his business methods and careful editing of its annual proceedings will never be surpassed. His social and conversational characteristics were admirably blended and strongly tinted by his experiences as surgeon during the war of the Rebellion.

James D. Spencer, of Watertown, by his medical ancestry inheriting the practice of medicine, as it were, easily assumed its responsibilities, and was long identified with this society before his selection as its president. Few meetings indeed were not marked by his presence and genial fellowship.

So excellently did my predecessor select his committeemen; so well have they performed their duties, and so complete was the organization of this society well devised for just such a contingency as was presented, the duties devolving upon the acting president have been materially lightened.

The reports of the officers and committees of this society have been submitted, and by this time no doubt carefully read. In a large measure they indicate the business before you, and there is little occasion for much being added at my hands. A perusal of the report of the committee on legislation shows the annual crop of proposed legislation, some of it immature, some of it vicious, some in relation to private interests to the detriment of the public, some masked for an ulterior purpose not stated in the preamble, and while there is a fair measure of well conceived and proper legislation, there is some that might be characterized as simply foolish. The committee having this subject in charge deserves the commendation of the society for its watchful care in maintaining the interests, not of this society alone, but of the public, for which in many respects we must continue to stand as guardians whether in our private or in our collective capacity.

The committee on experimental medicine, in asking for the pecuniary support of the society in carrying on the work entrusted to it, should be recognized in this respect, for the time alone devoted to the task is no little tax upon the resources of the committee.

Of more than ordinary interest is the report of the Committee on Public Health, particularly in the painstaking and very valuable report upon county laboratories. The question which comes up to the average practitioner as to the methods by which his blood work and examinations of excreta and morbid specimens may be best secured, has been with each recurring year more and more difficult, and is very far from having reached a satisfactory solution. To those who are near college centers or are themselves engaged in college work there are enough assistants readily secured who come to render valuable aid in this respect, but elsewhere the problem is more difficult. Usually an arrangement is made with a recent graduate who for a few months may be serviceable, but because he must himself secure a revenue, gaining an insufficient return for his work he is obliged to enter into general practice, and the problem is presented anew. The question of time involved in having reports on specimens returned to the physicians is an important one, and an advantage therefore attaches to the nearby laboratory on this account. With the growing importance of this work, both for the state and the physician in private practice, it would seem that out of this county hospital might be evolved a means of very measurably improving the opportunities for diagnosis in all sections of the state, and therefore it is to be hoped that the committee will not drop this subject at its present point, but continue an active consideration of the questions involved during the coming year.

Another conclusion is a very important one, in their urging the use of public funds for carrying on public sanitation. The funds necessary for carrying to a conclusion the work that has been begun in relation to tuberculosis alone, are so great that inasmuch as the benefit to the public is correspondingly

large there is no reason why boards of health should not take upon themselves the continuation of a great deal of the work that has been begun by private fortune. This has already been done in some cities of the state where boards of health have taken over tuberculosis dispensaries originally started by branches of the State Charities Aid.

Every member should read and read again the suggestions for increasing interest in county societies reported by the special committee appointed for that purpose. They are brief but very inclusive.

The program of the Committee on Scientific Work speaks for itself, but probably few of the members can fully appreciate the amount of work devolving upon this committee, and especially its chairman, until they have had some insight into it. The task began early in the year and it continues well to the close in order that you may have two days of scientific interest. To those who are accustomed to attend the annual meetings of state and national medical societies, there is a question raised whether we make as much out of our commercial exhibit as is possible. Could this not be made more attractive and at the same time remunerative? If so, this effort would involve the personal work of a paid agent co-operating with or representing the JOURNAL of the society, thus securing the patronage of its subscribers, or possibly the agent might represent the Committee on Arrangements, or the JOURNAL and the Committee might co-operate to a common end, but in any event it would be necessary to work up the business, during the year preceeding the exhibition, by personal effort properly directed. It would also be necessary to have a more suitable place to assemble such a gathering than is afforded by the corridors of the City Hall. Could this be evolved so as to be mutually profitable to the society and the advertisers in the JOURNAL? It might be worthy your attention.

CHARLES STOVER,
December 31, 1910. *President.*

REPORT OF THE SECRETARY.

To the House of Delegates:

In compliance with Section 3, Chapter VI, of the By-Laws, the Secretary submits the following report for the year ending December 31, 1910:

Membership December 31, 1909		6,370
New members, 1910	477	
Reinstated members, 1910	234	711
		7,081
Deaths	70	
Resignations	74	
Expulsions	8	
		152
		6,929
Dropped December 31, 1910, for non-payment of 1910 dues		414
		6,515
Elected after Oct. 1, 1910, credited to 1911.		166
Membership January 1, 1911		6,681

The percentage of paid up to total membership is 94 per cent., about the same as for the past five years. The number reinstated in 1910 is in excess of previous years. On December 31, 1909, there were 370 delinquents. During the year 234 of these paid up, thus bringing the paid up percentage of 1909 to over 98 per cent.

The increase in membership in the County Societies in 1910 was small with the exception of Erie. It is hoped that renewed efforts will be made to bring into affiliation the large number of eligible physicians who do not as yet belong to any county society. Earnest work in every county would easily place our membership well beyond the 7,000 mark. The experience of five years since amalgamation has shown that each year the Society is gaining not only numerically, but in importance and influence, and that all that is needed to a further increase is continued work on the part of the members and especially the officers of the County Societies.

The honor list of County Societies whose membership for 1910 is fully paid up is as follows:

Clinton, Greene, Madison, Montgomery, Ontario, Tompkins and Warren.

The most important event of the year was the reception tendered by the State Society to Dr. Abraham Jacobi on his eightieth birthday, May 6, 1910, at the New York Academy of Medicine. It was largely attended by the profession of the State and by many prominent guests from other states.

The following amendments to the Constitution and By-Laws were presented at the last meeting and will come up for action at this session:

Amend Article II. of the Constitution by adding a new Section 4, as follows:

"Section 4. There shall be two forms of membership, namely, active and associate. Active members shall pay dues, as provided in the By-Laws, and be entitled to all the rights of property and every other privilege of the Society. Associate members shall pay no dues and shall be entitled to no rights of property and receive none of the privileges of the Society. Any active member may be admitted to associate membership for any reason which may be considered sufficient by a Board of Censors of a County Society, upon a majority vote of the active members present at any County Society meeting."

Amend Chapter VII, Section 1 of the By-Laws to read as follows:

"The following shall be the standing and annual committees of this Society:

"The standing committees shall be one on Legislation and one on Public Health.

"The annual committees shall be one on Scientific Work and one on Arrangements.

"The standing committees shall be elected by the House of Delegates; the annual committees shall be appointed by the President.

"The remaining portion of this section to remain as at present. That Section 2 become Section 4, Section 3 become Section 2, and Section 4 become Section 3."

Amend Chapter VIII of the By-Laws so as to transfer Madison County from the Sixth to the Fifth District Branch.

Notice was also given that a motion would be made at the next meeting of the House of Delegates to change the time and place of the Annual Meeting.

The following delegates were given certificates to other Societies during the year:

Medical Society of New Jersey—Henry Ling Taylor, William M. Leszynsky, New York. Medical Society of the State of Pennsylvania—Emerson W. Ayars, Alfred. Vermont State Medical Society—John C. MacEvitt, Brooklyn; Frank DeW. Reese, Cortland, and Andrew MacFarlane, Albany. Virginia State Medical Society—Lewis D. Mason, Brooklyn.

Respectfully submitted,
WISNER R. TOWNSEND,
December 31, 1910. *Secretary.*

REPORT OF TREASURER.

ALEXANDER LAMBERT, *Treasurer,* In Account with the THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

DR. CR.

CASH RECEIPTS, YEAR ENDING DECEMBER 31, 1910.

To Balance January 1		$9,426.79
" Directory 1908	$2.00	
" " 1909	483.25	
" " 1910	2,034.50	
" Clerical Work	152.33	
" Interest on Deposits	358.41	
" Interest on Bonds	90.00	
" Sundry Receipts	88.26	
" Advertising	5,293.08	
" Annual Dues 1906	6.00	
" " " 1907	9.00	
" " " 1908	57.00	
" " " 1909	702.00	
" " " 1910	19,263.00	
" " " 1911	459.00	
" Committee on Exp. Medicine	265.16	
		29,262.99
		$38,689.78

CASH PAYMENTS, YEAR ENDING DECEMBER 31, 1910.

By Annual Dues: Overpayments	$9.00
Advertising	56.25
Furniture and Fixtures	62.50
Traveling Expenses	382.13
Accountant	200.00
Carfare	21.47
Express	19.09
Treasurer's Bond	25.00
Sundry Petty Cash Disbursements	201.24
Telephone	139.10
Stationery and Printing	223.36
Postage	449.04
Rent	900.00
Insurance	5.70
Committee on Legislation	155.75
Legal Expenses	4,590.79
1909 Directory	53.81
1910 Directory	8,807.76
JOURNAL Expense	312.72
" Salaries	1,300.01
" Commission	933.20
" Publication	5,901.98
District Branches	407.51
Clerical Work	67.80
Salaries	1,890.42
Sundries	25.75
Annual Meeting	596.52
Committee on Exp. Med.	265.16
Secretary	499.99
Interest on Bonds	90.00
	28,593.05
Balance in Guaranty Trust Co.	10,096.73
	$38,689.78

ANNUAL DUES, 1910.

County.	Amt. Paid.	County.	Amt. Paid.
Albany	$540.00	Oneida	441.00
Allegany	108.00	Onondaga	426.00
Broome	171.00	Ontario	198.00
Cattaraugus	129.00	Orange	246.00
Cayuga	186.00	Orleans	84.00
Chautauqua	228.00	Oswego	147.00
Chemung	147.00	Otsego	114.00
Chenango	123.00	Rennsselaer	261.00
Clinton	126.00	Richmond	132.00
Columbia	72.00	Rockland	96.00
Cortland	90.00	St. Lawrence	138.00
Delaware	81.00	Saratoga	138.00
Dutchess	282.00	Schenectady	264.00
Erie	1,443.00	Schoharie	30.00
Franklin	120.00	Schuyler	39.00
Fulton	102.00	Seneca	69.00
Genesee	90.00	Steuben	180.00
Green	87.00	Suffolk	267.00
Herkimer	156.00	Sullivan	42.00
Jefferson	210.00	Tioga	81.00
Kings	2,301.00	Tompkins	117.00
Lewis	51.00	Ulster	159.00
Livingston	111.00	Warren	87.00
Madison	120.00	Washington	75.00
Monroe	636.00	Wayne	87.00
Montgomery	147.00	Westchester	561.00
Queens-Nassau	339.00	Wyoming	78 00
New York	6,699.00	Yates	48.00
Niagara	186.00		
		Total	$19,686.00

ADVANCE DUES, 1911.

County.	Amt. Paid.	County.	Amt. Paid.
Albany	$9.00	Oswego	12.00
Cattaraugus	3.00	Otsego	3.00
Chautauqua	3.00	Richmond	3.00
Columbia	63.00	Schenectady	15.00
Cortland	12.00	Schoharie	3.00
Erie	219.00	Seneca	6.00
Herkimer	3.00	Steuben	6.00
Kings	36.00	Ulster	9.00
Queens-Nassau	12.00	Warren	3.00
Niagara	3.00	Wayne	3.00
Onondaga	12.00	Westchester	9.00
Ontario	6.00		
Orange	6.00	Total	$459.00

DIRECTORY ACCOUNT, 1910.

Expenditures

Postage	$197.52	
Stationery and Printing	221.25	
Delivery	1,173.66	
County Clerk's Fees	13.75	
Salaries	2,149.25	
Printing and Binding Directory	5,262.38	
		$9,017.81

Income

Advertisements	1,160.50	
Sales	991.53	
		$2,152.03
Cost of Directory		$6,865.78

REPORT OF TREASURER

JOURNAL ACCOUNT, YEAR ENDING DECEMBER 31, 1910.

Income			*Expenditures*		
Advertising	$5,399.69		Publication	$5,901.98	
Subscription and Sales	18.88		Expense	278.37	
Doubtful Debts Collected	49.50		Salaries	1,300.01	
		$5,468.07	Commission	933.20	
Loss		3,514.23	Discount	73.91	
			Doubtful Debts	494.83	
		$8,982.30			$8,982.30

BALANCE SHEET: DECEMBER 31, 1910.

Assets			*Liabilities*			
Cash in Bank	$10,096.73		Annual Dues, 1911		$459.00	
Petty	9.31		Accounts Payable		30.34	
		$10,106.04	Lucien Howe Prize Fund.	$1,770.92		
Accounts Receivable		357.95	Merritt H. Cash Fund	883.94		
Furniture and Fixtures	250.00				2,654.86	
Directory Catalogue	250.00		Surplus Jan. 1, 1910	11,116.37		
		$500.00	Loss 1910 $479.22			
Directory 1910		100.00	Furniture Depreciation 62.50			
Union Dime Savings Institute	343.01			541.72		
Albany Savings Bank	311.85					
Title G. & T. Co. Mtg. Ctf.	2,000.00					
		2,654.86	Surplus Dec. 31, 1910		10,574.65	
						$13,718.75
		$13,718.85				

I hereby certify that the above Balance Sheet is correct, as shown by the books.

A. H. Wicks,
Certified Public Accountant,
302 Broadway, New York.

INCOME AND EXPENDITURES, YEAR ENDING DECEMBER 31, 1910.

Income			*Expenditures*		
Arrears of Dues	$774.00		Expense	$834.48	
Dues, 1910	19.677.00		Telephone	139.10	
Interest on Deposits	358.41		Stationery and Printing	223.36	
Clerical Work	84.53		Postage	431.52	
Directory, 1908	2.00		Rent	900.00	
Excess of Expenditures	479.22		Insurance	5.70	
			Salaries	1,890.42	
			Committee on Legislation	155.75	
			Legal Expense	4,590.79	
			Annual Meeting	595.97	
			District Branches	407.51	
			1909 Directory	320.56	
			1910 Directory	6,865.78	
			Secretary	499.99	
			Journal Loss	3,514.23	
		$21,375.16			$21,375.16

INCOME AND EXPENDITURES, YEAR ENDING DECEMBER 31, 1909.

Income		*Expenditures*		
Arrears of Dues	$ 663.00	Expense	$ 761.09	
Dues, 1909	19,164.00	Telephone	133.35	
Interest on Deposits	265.46	Stationery and Printing	141.15	
Clerical Work	51.02	Postage	420.65	
Sundries	19.15	Rent	900.00	
		Insurance	5.70	
		Salaries	1,557.26	
		Committee on Legislation	213.25	
		Legal Expense	3,000.00	
		Annual Meeting	317.65	
		District Branches	356.37	
		1908 Directory	170.75	
		1909 Directory	6,053.09	
		Secretary	500.00	
		Journal Loss	2,320.71	
			16,851.02	
		Excess of Income	3,311.61	
	$20,162.63			$20,162.63

REPORT OF THE COUNCIL.

To the House of Delegates:

The Council of the Medical Society of the State of New York begs leave to present the following report:

During the past year meetings have been held on the following dates:

January 26th, in Albany. Minutes will be found in the New York State Journal of Medicine, volume 10, No. 2, page 86.

May 6th, in New York. Minutes will be found in volume 10, No. 6, page 315.

December 3d, in Albany. Minutes will be found in volume 11, No. 1, page 43.

A full report of the Committee on Publication is herewith appended, and for the expenses of the Society, the House of Delegates is referred to the Annual Report of the Treasurer, with the statement that all expenses incurred were approved of beforehand by the Committee on Finance of the Council, and that all bills have been properly audited and the accounts examined and certified to by A. H. Wicks, a Certified Public Accountant of the State of New York.

Respectfully submitted,

Wisner R. Townsend,

December 31, 1910. *Secretary.*

REPORT OF THE COMMITTEE ON PUBLICATION APPOINTED BY THE COUNCIL.

The Committee appointed by the Council at a meeting held in Albany, January 26, 1910, consisting of Drs. J. C. Bierwirth, S. E. Getty, Alexander Lambert, S. W. S. Toms and Wisner R. Townsend, begs leave to present the following report:

At a meeting held February 8th Dr. J. C. Bierwirth was appointed Chairman for the ensuing year.

Journal.

The Journal has been regularly issued on the 15th of each month.

The expense has exceeded the revenue by $3,514.23, which is $1,193.52 more than for 1909. This increased loss was anticipated, as will be seen by last year's report, and is due to the dropping of advertisements of medicinal preparations not approved by the Council on Pharmacy and Chemistry of the American Medical Association.

Every effort has been made to secure new advertisements for the Journal during the year, but owing to the general dullness which has prevailed in all parts of the business world the results have not been very satisfactory, and the increase in revenue from advertisements for 1911 is very uncertain.

Directory.

The Directory for 1910 was issued during the month of October.

The Committee would be under great obligation to the profession if they would notify it of any name not found in the book, or of any errors that appear, as every effort is being made to make the volume as complete and accurate as possible.

The cost was $6,865.78, which is $812.69 more than in 1909. This increase is due to a slight increase in size, which added to the weight and made the bill for postage $27.27 larger than the year before. Also, some advertisements were dropped, as they did not conform to the rules now in force. Another item of $229 was due to "uneven forms" caused by the used of the colored papers. This has always been an item of added expense in printing and binding, but this year the expense was greater than usual. The sales also were less by $442.67.

The edition for 1910 was 7,500 copies, which will be nearly exhausted by the time the 1911 issue is ready. The number on hand is 400. Full details as to the cost of the Journal and Directory will be found in the statement of the Treasurer.

In accordance with the following resolution, which was passed by the Council at a meeting held December 8, 1910:

"Whereas, The contract between the Medical Society of the State of New York and the Medical Society of the County of Kings has or is about to expire, in which it is provided that the Medical Society of the County of Kings shall discontinue its journal and certain exchanges be made between the two societies and certain books and magazines are to be held by the Medical Society of the County of Kings as a circulating library for the benefit of the members of the Medical Society of the State of New York; be it

"Resolved, That all matters pertaining to such contract, a renewal thereof, inquiries, and other matters pertaining thereto, be and the same is hereby referred to the Committee on Publication, with full power granted to that Committee to do any and all things necessary in the premises for and on behalf of the Medical Society of the State of New York";

and under the authority thus given conferences were held with representatives of the Medical Society of the County of Kings and arrangements made whereby all journals issued for exchange purposes in excess of fifty were to be paid for in future by the Library of the Medical Society of the County of Kings.

The Committee begs to thank the members of the Council and officers and members of the Society for their assistance during the past year.

Respectfully submitted,

J. C. Bierwirth, *Chairman.*
S. W. S. Toms.
S. E. Getty.
Alexander Lambert.
Wisner R. Townsend.

December 31, 1910.

REPORT OF THE COMMITTEE ON LEGISLATION.

To the House of Delegates:

The Legislature for 1910 met in regular session on January 5th and adjourned on May 27, 1910. It met again in extraordinary session on June 26th and adjourned July 1, 1910.

During this time there were introduced about two hundred bills relating to Medicine, Public Health and Sanitation. Of this number the following, after passing both Houses and receiving the signature of the Governor, became laws:

An Act to amend Sections 103, 120, 122 and 144 of the Public Health Law relative to the Health Officer of the Port of New York. Assembly Int. 388. Chapter 425.

An Act to amend the Public Health Law, by adding a new Article II, relative to the practice of pharmacy. Assembly Int. 137. Chapter 422.

An Act to amend Section 14 of the Public Health Law, relative to the authority of the State Commission of Health over certain State institutions. Assembly Int. 605. Chapter 92.

An Act to amend Section 324 of the Public Health Law, relative to disinfection by Health Authorities. Chapter 427.

An Act to amend Section 1746 of the Penal Law, relative to the sale of cocaine and eucaine. Assembly Int. 760. Chapter 131.

An Act to amend Section 229 of the Education Law, by adding a new sub-division, 16-a, providing for medical inspection of all children attending schools. Senate Int. 86. Chapter 602.

An Act to amend the Greater New York Charter by adding a new section, 1542-a, relative to the powers of the Board of Health, the Board of Trustees of Bellevue and Allied Hospitals, the Commissioner of Public Charities and the Commissioner of Correction as to medical care of physicians and nurses. Senate Int. 657. Chapter 267.

An Act to amend the General Municipal Law by adding nine new sections, 126 to 134, inclusive, relative to the establishment of public general hospitals for the care of the sick in any city or village of the State. Assembly Int. 1340. Chapter 558.

An Act to amend Section 19 of the Insanity Law, relative to the qualifications of the members of the Board of Alienists. Assembly Int. 1589. Chapter 604.

An Act to amend Section 40 of the Insanity Law by adding a new sub-division 14, relative to the Mohansic State Hospital for the Insane and establishing such hospital. Assembly Int. 66. Chapter 57.

An Act appropriating $300,000 for the construction of the Mohansic State Hospital. Assembly Int. 781. Chapter 529.

An Act to amend Sections 84, 86, 87 and 88 of the Insanity Law, relative to the care and treatment of insane persons and persons under examination as to their sanity, pending such examination and prior to their transfer to institutions for the insane. Assembly Int. 1287. Chapter 608.

An Act making appropriations for repairs, renewals and betterments for the several State prisons, the Matteawan State Hospital for Insane Criminals and the Dannemora State Hospital for Insane Convicts. Senate Int. 267. Chapter 509.

An Act to provide additional funds for the maintenance of State hospitals and to provide deficiencies in maintenance account for the year ending September 30, 1910. Assembly Int. 81. Chapter 98.

An Act to amend the State Charities Law generally. Assembly Int. 599. Chapter 449.

An Act creating a commission for the government and control of a municipal hospital for the City of Buffalo for the care and treatment of persons affected with incipient tuberculosis. Assembly Int. 195. Chapter 26.

An Act to amend Section 29 of the Liquor Tax Law by providing that liquors shall not be sold to any patient affected with tuberculosis in any public camp, colony or hospital except upon prescription from a physician. Assembly Int. 840 Chapter 307.

An Act to amend Chapter 639, Laws of 1906, extending the term of the commission to investigate and consider means for protecting the waters of New York Bay and vicinity against pollution to May 1, 1913. Assembly Int. 1375. Chapter 200.

An Act to amend Section 59 of the Insanity Law and Section 1122 of the Penal Law, relative to private institutes for the insane, by providing that no insane patient shall be treated in such institutions unless a license shall have been obtained. Assembly Int. 1356. Chapter 329.

The following bills which are of interest to the medical profession were introduced but did not pass the Legislature:

An Act to amend Section 1181 of the Greater New York Charter, relative to assistant sanitary superintendents and assistant registrars of records. By Mr. McManus. Senate Int. 285.

An Act to amend Section 1570 of the Greater New York Charter, providing that the coroners in the Borough of The Bronx shall devote their entire time to their duties as coroner. By Mr. McManus. Senate Int. 1139.

An Act to amend Chapter 410, Laws of 1882, relative to compensation of coroners' juries in the City of New York, and providing for the payment thereof. By Mr. Spielberg. Assembly Int. 888.

An Act to amend the Greater New York Charter by adding a new section, 1083-a, relative to furnishing free spectacles or eyeglasses to school children. By Mr. A. J. Levy. Assembly Int. 765.

An Act to amend the Greater New York Char-

ter by adding a new section, 1230, providing for the establishment of dental stations for the treatment of school children. By Mr. McManus. Senate Int. 330.

An Act to amend Section 310 of the Public Health Law, relative to the vaccination of school children, by permitting unvaccinated children to attend school in certain cases. By Mr. Green. Assembly Int. 1472.

An Act providing that all patients residing in New York City who are admitted for treatment to Bellevue and Allied Hospitals shall be admitted free of all charges, and if patients have money in their possession none of it shall be taken from them and charged for treatment. By Mr. Spielberg. Assembly Int. 918.

An Act to amend Section 692 of the Greater New York Charter by adding a new sub-division, 12, relative to ambulance surgeons. By Mr. Spielberg. Assembly Int. 887.

An Act to amend the Greater New York Charter by adding a new section, 905-a, relative to exemption of hospitals from assessments for public improvements in the City of New York. By Mr. Gerken. Assembly Int. 872.

An Act to amend Chapter 13 of the Greater New York Charter by repealing title 2 and adding a new title, 2, creating a department of public hospitals for the City of New York. By Mr. Lee. Assembly Int. 933.

An Act to regulate the introduction of medical expert testimony. By Mr. Fowler. Assembly Int 391.

An Act to amend the Education Law by adding five new sections, 1110-1114, inclusive, relative to creating a State Board of Commissioners in Pharmacy and conferring certain powers in respect to pharmacy on the State Board of Regents. By Mr. Conklin. Assembly Int. 1181.

An Act to amend Section 173 of the Public Health Law, relative to the construction of the provisions of such law regarding the practice of medicine, by providing that the section shall not apply to a certain religious tenet. By Mr. Witter. Senate Int. 1041.

An Act to amend the Penal Law by adding a new section, 281, prohibiting corporations from practicing medicine, dentistry and pharmacy. By Mr. Joseph. Assembly Int. 443.

An Act to amend the Penal Law, by adding a new section, 1142-a, prohibiting advertisements concerning certain diseases. By Mr. Holden. Assembly Int. 562.

An Act to amend Section 167 of the Public Health Law, relative to questions submitted upon an examination for license to practice medicine relative to mental science. By Mr. Burgoyne. Assembly Int. 1370.

An Act to amend Section 319 of the Public Health Law, relative to the establishment of a hospital or camp for the treatment of pulmonary tuberculosis in the County of Westchester. By Mr. Goodwin. Assembly Int. 600.

An Act to amend the State Charities Law by adding a new article 24, providing for the establishment of a State hospital in some suitable locality for the treatment of intermediate and advanced pulmonary tuberculosis and appropriating $150,000 therefor. By Mr. McGrath. Assembly Int. 17.

An Act to amend the Education Law by adding six new sections, 765 to 770, relative to preventing cruelty by conferring upon the Board of Regents of the University of the State of New York the power of supervision of experiments on living animals. By Mr. Brough. Senate Int. 274. Same as Assembly 369.

An Act to establish a commission to inquire into the extent and nature of the practice in this State of experimentation on living animals, together with the condition of the laws of the State relative to the proper protection of scientific experiments without danger or unnecessary cruelty, and appropriating $5,000 therefor. By Mr. Bayne. Senate Int. 623. Same as Assembly 1033.

The following, after passing the Legislature, were vetoed by the Governor:

An Act to amend Section 211 of the Public Health Law, relative to qualifications for the practice of veterinary medicine and surgery. By Mr. A. E. Smith. Assembly Int. 289.

An Act to amend Sections 41, 42, 45, 48 and 50 of the State Charities Law, and adding a new section 52, relative to the regulation of State charitable institutions. By Mr. Davis. Assembly Int. 570.

An Act to amend the Education Law, by adding a new section, 1130, relative to the establishment of a State school of sanitary science and public health at Cornell University, and appropriating $10,000 therefor. By Mr. Whitney. Assembly Int. 958.

An Act appropriating $100,000 for the reconstruction of building of the Long Island State Hospital at Flatbush, Long Island. By Mr. Lee. Assembly Int. 16.

An Act to amend Section 201 of the Agricultural Law and Sections 40, 41, 42, 43, 44, 45 and 50 of the Public Health Law, relative to the adulteration or misbranding of food and food products and to repeal certain provisions of law relative to the same. By Mr. Boshart. Assembly Int. 1504.

The following acts, after passing the Legislature, were referred by the Governor to the Mayor of the City of New York and returned by him as not approved:

An Act to amend Section 174 of the Public Health Law, relative to fines payable to medical societies. By Mr. Burlingame. Senate Int. 903.

An Act to amend Chapter 410 of the Laws of 1882, relative to coroners' physicians in the

Borough of Queens. By Mr. Wilsnack. Assembly Int. 506.

In accordance with the resolution passed by the House of Delegates at its annual meeting, January 24, 1910, "That the Committee on Legislation be directed to have an act introduced into the State repealing the following laws:

Laws of 1818, Chapter 266, Sec. 6, in full;
" " 1819, " 237, " 1, " "
" " 1839, " 26, " "

the following bills were introduced, and after receiving the signature of the Governor, became laws:

An Act to repeal Section 1 of Chapter 237 of the Laws of 1819, entitled "An act further to amend an act to incorporate medical societies, for the purpose of regulating the practice of physic and surgery in this State." Senate Int. 530. Chapter 196.

An Act to repeal Section 6 of Chapter 206 of the Laws of 1818, entitled "An act to amend an act, entitled 'An act to incorporate medical societies,' for the purpose of regulating the practice of physic and surgery in this State." Senate Int. 532. Chapter 198.

An Act to repeal Section 7, Chapter 26, Laws of 1839, relative to representation of the Albany Medical College in the State Society. Senate Int. 531. Chapter 197.

The Chairman wishes at this time to express his deep regret for the loss sustained by the State Society and this Committee in the death of Dr. Ernest Wende, and to express his appreciation of the work done by the Doctor in the past. Dr. Wende was recommended by the Chairman for reappointment on the Committee at the last Annual Meeting, but was not elected by the Council, owing to his death in the early part of February, 1910.

Respectfully submitted,
Frank Van Fleet, *Chairman.*
Grover W. Wende.
H. L. K. Shaw.

December 31, 1910.

REPORT OF THE COMMITTEE ON EXPERIMENTAL MEDICINE.

To the House of Delegates:

In behalf of the Committee on Experimental Medicine the undersigned have the honor to report as follows for the year 1910:

At the meeting of the House of Delegates, held on January 24, 1910, resolutions were passed continuing this committee with its customary duties and authority, and pledging each member of the House of Delegates to use his best efforts in opposing encroachment on qualified animal experimentation for scientific medical purposes.

In pursuance of this act the Committee on Experimental Medicine, in co-operation with the Committee on Legislation and with public-spirited men throughout the State, labored successfully to prevent the passage by the Legislature of 1910 of two bills relating to experiments on living animals. One bill sought to impose restrictions, which were against the public welfare, upon the performance of such experiments. A joint hearing before the Judiciary Committee of the Senate and the Assembly was held on February 23, 1910. The other bill represented a new departure on the part of anti-vivisectionists in that it sought to establish a commission to inquire into the extent and nature of animal experimentation in this State. In fact, it was a real anti-vivisection measure thinly disguised. Hearings on this bill were held before the Ways and Means Committee of the Assembly on April 13, 1910, and before the Finance Committee of the Senate on April 19, 1910. The Committee on Experimental Medicine felt it to be their duty to combat the mistaken, unsound and suicidal notions of their opponents relating to experimental medicine, and to oppose both bills, and its representatives appeared at the hearings and presented arguments to this effect before the legislative committees. Both bills died in committee. There is no doubt, however, that again and again, with each succeeding year, this contest will be renewed; at least so long as the funds provided for the purpose, and a willingness to regard experimental workers as unworthy of belief in the matter of their operative technique, continue. Our opponents are unreasoning, prejudiced and imaginative.

Every member of the profession should regard this controversy as a personal one, since the result affects all alike so far as the prevention and cure of disease are concerned. Each member can aid in a marked degree by explaining to his legislative representative the great importance of animal experimentation as related to the past, the present and the future benefits to the human race. Any member who wishes to refresh his mind in this respect will be furnished with conclusive printed evidence in the form of the Committee's leaflets on application to the office of the Society, 17 West Forty-third Street, New York city.

The task imposed upon the Committee in performing its defensive work is onerous both as to time and money; of the former nothing need be said; the time and energy essential to this work will be freely contributed as it has been in the past. The monetary expense, which is of a considerable amount, the Committee regards as chiefly a tax upon the medical profession of the State, and would, therefore, request that an allowance adequate for the purpose be voted by the House of Delegates, the same to be expended only with the approval of the Finance Committee of the Council.

Respectfully submitted,
Joseph D. Bryant, *Chairman.*
John S. Thatcher, *Secretary.*

December 31, 1910.

REPORT OF THE COMMITTEE ON PUBLIC HEALTH.

To the House of Delegates:

At no time in the history of the State of New York has so much fruitful activity been manifested in matters pertaining to public health and the extermination and prevention of disease as the present. The State authorities, private organizations, and individuals have earnestly and energetically endeavored to educate the public to a greater degree of intelligence regarding personal and community hygiene, and much permanent good has been accomplished. It is the belief of your Committee on Public Health that the larger part of this work belongs to and should be done by the various Health Departments: the State Health Department, the city departments, the county and town departments, and, we hope soon, the National Health Bureau.

We believe it our duty respectfully to advise and urge that ample funds be provided by the State and other authorities for all these departments, to create special bureaus, and push the work of education further and further.

We feel that the most far-reaching result is to be accomplished by the quiet, unobtrusive, convincing work as done by a scientific department.

We further feel that the greatest present and most pressing need in the Empire State is a well organized system of county laboratories equipped for the demands of modern diagnostics.

While those of our colleagues who reside in large cities have every opportunity and facility in laboratory advantages, others in the smaller towns and villages do not, and we believe them to be entitled to every and any aid the State can give to them. These men stand in the front rank of earnest, honest, hard-working, self-sacrificing members of the medical profession, and they should not be denied these advantages simply because of their environment. On the other hand, such laboratory facilities would not only enable county medical men to keep modern, but would exert a profound and lasting influence over the public at large.

To this end your Committee has prepared, and respectfully submits, a plan whereby such a system of laboratories could be put into operation. We are fully aware of the fact that certain county laboratories already exist, and we would not essay to interfere with any one's prerogative. What we really desire is to urge the Medical Society of the State of New York to such action as may seem wise in an effort to place the State in a tenable position in the matter of one of the most important branches of public hygiene.

Counties	Map Nos.	Area Sq. Miles	Population 1910	Physicians 1910
Albany	45	514	173,666	249
Allegany	32	1,033	41,412	65
Broome	40	706	78,809	140
Cattaraugus	31	334	65,919	88
Cayuga	19	756	67,106	98
Chautauqua	30	1,099	105,126	135
Chemung	38	406	54,662	92
Chenango	37	898	35,575	60
Clinton	3	1,092	48,230	55
Columbia	48	688	43,658	60
Cortland	36	485	29,249	48
Delaware	43	1,580	45,575	62
Dutchess	51	816	87,661	131
Erie	29	1,071	528,985	782
Essex	4	1,926	33,458	55
Franklin	2	1,718	45,717	58
Fulton	12	544	44,534	55
Genesee	26	507	37,615	48
Greene	47	686	30,214	38
Hamilton	5	1,745	4,378	3
Herkimer	6	1,745	56,356	78
Jefferson	8	1,868	80,297	124
Kings	59	78	1,634,351	1,803
Lewis	7	1,288	24,849	30
Livingston	24	655	38,037	66
Madison	16	670	39,289	63
Monroe	23	682	283,212	419
Montgomery	13	214	57,567	61
Nassau	56	352	83,930	89
New York	58	63	2,762,522	5,104
Niagara	28	558	92,036	127
Oneida	14	1,215	154,157	231
Onondaga	17	812	200,298	338
Ontario	21	640	52,286	90
Orange	52	838	115,751	156

Cities	Physicians	Hospitals	Population 1910
Albany	176	6	100,253
Cohoes	24	1	24,709
Binghampton	105	1	48,443
Olean	21	1	14,743
Auburn	61	1	34,668
Jamestown	41	1	51,297
Dunkirk	15	1	17,221
Elmira	76	1	37,176
Plattsburg	21		11,138
Hudson	17	1	11,417
Cortland	20	1	11,504
Poughkeepsie	53	1	27,936
Buffalo	679	15	423,715
Gloversville	29	1	20,642
Batavia	24	1	11,613
Watertown	45	2	26,730
With Queens and Richmond		37	
Oneida	17	1	8,317
Rochester	354	6	218,149
Amsterdam	32	2	31,267
Manhattan and Bronx		81	
Niagara Falls	45	1	30,445
Lockport	31	1	17,970
Utica	127	4	74,419
Rome	31	1	20,497
Syracuse	261	4	137,249
Canandaigua	20	2	7,217
Geneva	25	1	12,446
Middletown	38	1	15,313
Newburg	37	1	27,805

Counties	Map Nos.	Area Sq. Miles	Population 1910	Physicians 1910
Orleans	25	405	32,000	47
Oswego	15	1,038	71,664	93
Otsego	41	1,038	47,216	86
Putnam	53	234	14,665	16
Queens	60	58	284.041	198
Rensselaer	46	690	122,276	165
Richmond	61	59	85,969	64
Rockland	54	208	46,873	46
Saratoga	11	862	61,917	78
Schenectady	44	221	88,235	102
Schoharie	42	675	23,855	44
Schuyler	34	352	14,004	29
Seneca	18	420	26,972	41
Steuben	33	1,425	83,362	135
St. Lawrence	1	2,880	89,005	118
Suffolk	57	1.200	96,138	134
Sullivan	49	1,082	33,808	48
Tioga	39	542	25,624	50
Tompkins	35	506	33,647	71
Ulster	50	1,204	91,769	95
Warren	10	963	32,223	54
Washington	9	850	47,778	61
Wayne	20	624	50,179	70
Westchester	55	506	283,055	377
Wyoming	27	590	31,880	49
Yates	22	320	18,642	30

61 counties—Area, 47,170 Square Miles, Population 9,113,279.

Counties having hospitals.....43
Counties not having hospitals.....18

There are in New York State 13,474 physicians.

In Greater New York (1910).

	Population	Physicians
Manhattan	2,331,542	5,104
Bronx	430,980	
Brooklyn	1,634,351	1,803
Queens	284,041	198
Richmond	85,969	64
	4,766,883	7,169

The following cities have more than 100 physicians:

	(1910)	(1910)
Buffalo	423,715	679
Rochester	218,149	354
Syracuse	137,249	261
Albany	100,253	176
Troy	76,813	111
Utica	74,419	127
Binghamnton	48,443	105
		1,813

Excluding Greater New York we have in the State (13,474-7,169) 6,305 physicians.

Excluding also the seven cities given above we have (6.305-1,813) 4,492 physicians in the remainder of New York State.

Excluding Greater New York and the 44 cities or towns mentioned we have 3,147 physicians in the State.

Deducting five counties, containing large cities with laboratory facilities, *i. e.*, Albany, Syracuse, Buffalo, New York, Brooklyn, there remains 56 counties requiring diagnostic laboratories, and of these 38 possess hospital facilities and 18 do not.

A free estimate of the annual cost of such a system of diagnostic laboratories would be as follows:

56 Counties—1 Pathologist at	$1,200	
1 Associate at	600	
1 Servant at	600	
		$134.400

Cities	Physicians	Hospitals	Population 1910
Fulton	19	1	10,480
Oswego	29	1	23,368
Oneonta	25	1	9,491
With Brooklyn and Richmond		37	
Troy	111	3	76,813
With Brooklyn and Queens...		37	
Saratoga Springs	26	2	12,693
Schenectady	94	1	72,826
Hornell	28	1	13,617
Corning	27	1	13,730
Ogdensburg	27	2	15,933
Ithaca	43	2	14,802
Kingston	41	2	25,908
Glens Falls	33	1	15,243
Yonkers	86	4	79,803
Mt. Vernon	51	1	30,919
New Rochelle	44	1	28,867
White Plains	38	2	15,949

In these are 44 cities or towns, 3.147 physicians.

18 Counties requiring laboratory space at $600	10,800
56 Counties, apparatus, chemicals, etc., at $1,000	56,000
Grand total	$201,200

It is assumed that the 38 counties containing hospitals would be glad to furnish laboratory space for the *quid pro quo* of the paid resident pathologist and his assistant.

These laboratories should be centralized in the State Board of Health, and the Commissioner thereof should be in full control of and directly responsible for them and their working staffs.

These figures are tentative, and would probably suffer change in working out the details of such a plan. Not all of the counties would need an entire laboratory service, so that several counties could be grouped together. Again, some counties already contain diagnostic laboratories.

Your Committee would, therefore, respectfully suggest the submitting of the above scheme to a joint committee, consisting of the committees on Legislation and Public Health; this joint committee being charged with the duty of working out the final details of the scheme and framing a bill to be presented to the Council of the Society for such action before the Legislature of the State as it may see fit to take.

It is further respectfully suggested that the State Commissioner of Public Health be asked to act with the joint committee.

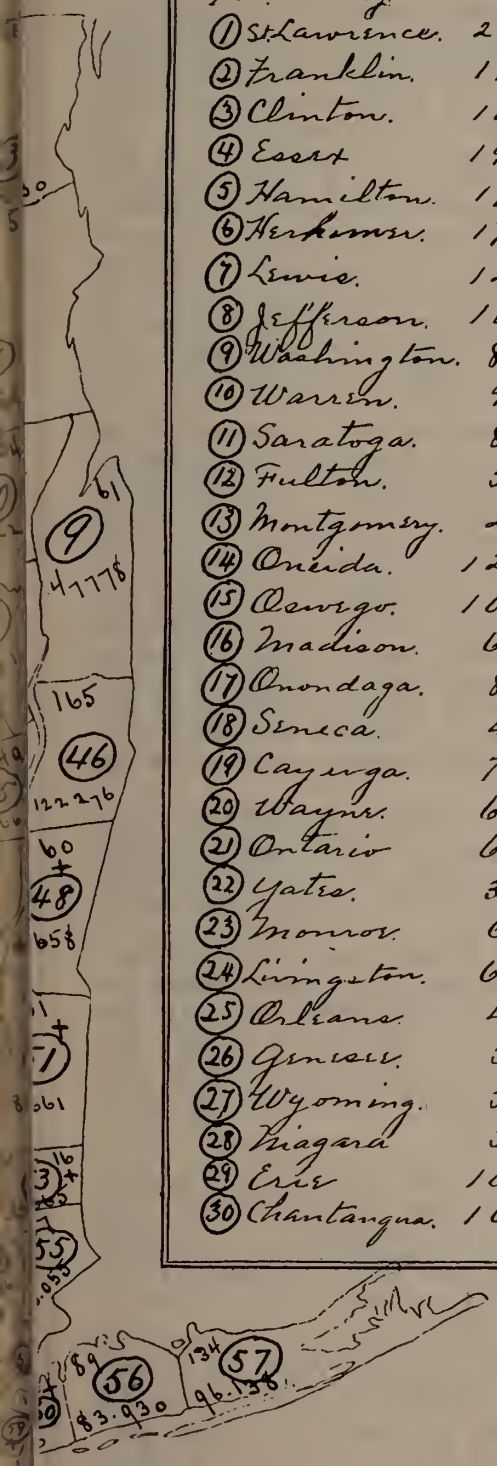
Respectfully submitted,
JOSHUA M. VAN COTT, *Chairman.*
ALLEN A. JONES,
THOMAS DARLINGTON,
December 31, 1910.

SUPPLEMENT TO REPORT OF

MAP SHOWING POPULATION, AREA AND NUMBER

HYSICIANS BY COUNTIES IN NEW YORK STATE

Map.	County.	Area.	Physicians	Map.	County	Area.	Physicians
1	St. Lawrence.	2880.	118.	31	Cattaraugus.	334	88
2	Franklin.	1718.	58.	32	Allegany.	1033	65
3	Clinton.	1092	55	33	Steuben.	1425	135
4	Essex	1926	55	34	Schuyler.	352	29
5	Hamilton.	1745	3	35	Tompkins.	506	71
6	Herkimer.	1745	78	36	Cortland	485	48
7	Lewis.	1288	30	37	Chenango.	898	60
8	Jefferson.	1868	124	38	Chemung.	406	92
9	Washington.	850	61	39	Tioga.	542	50
10	Warren.	963	54	40	Broome	706	140
11	Saratoga.	862	78	41	Otsego.	1038	86
12	Fulton.	544	55	42	Schoharie.	675	44
13	Montgomery.	214	61	43	Delaware.	1580	62
14	Oneida.	1215	231	44	Schenectady.	221	102
15	Oswego.	1038	93	45	Albany.	514	249
16	Madison.	670	63	46	Rensselaer.	690	165
17	Onondaga.	812	338	47	Greene.	686	38
18	Seneca.	420	41	48	Columbia.	688	60
19	Cayuga.	756	98	49	Sullivan.	1082	48
20	Wayne.	624	70	50	Ulster.	1204	95
21	Ontario	640	90	51	Dutchess.	816	131
22	Yates.	320	80	52	Orange	838	156
23	Monroe.	682	419	53	Putnam.	234	16
24	Livingston.	655	66	54	Rockland.	208	46
25	Orleans.	405	47	55	Westchester	506	377
26	Genesee.	507	48	56	Nassau.	352	89
27	Wyoming.	590	49	57	Suffolk.	1200	134
28	Niagara	558	127	58	New York.	63	5104
29	Erie	1071	782	59	Kings.	78	1803
30	Chautauqua.	1099	135	60	Queens.	58	198
				61	Richmond.	59	64



Counties having hospitals 43
" not " " 18
61

.634.351.

REPORT OF THE COUNSEL.

To the Officers, Council and Members of the House of Delegates of the Medical Society of the State of New York:

Gentlemen:—I have the honor to transmit to you herewith my report of malpractice defense for the year 1910.

The success of organized malpractice defense cannot be better summarized than by the statement that in the beginning of this effort thirty cases were brought in one year. During the year 1911 but seventeen actions were begun. Were insurance indemnity policies eliminated from the field even a greater reduction would have been shown. But nine cases have been tried during the past year, as against eighteen last year. Twenty-three cases were brought last year; seventeen this year.

There has been evidenced during the past year an increasing appreciation of privileges of membership in the State Society, as demonstrated by inquiries on various subjects from your Counsel outside of malpractice defense.

During the past year your Counsel has had occasion to dispose of a case which seems to be of great importance. An action was brought in Rockland County against two physicians, wherein it was alleged that they had been negligent and careless in that they failed to examine adequately as to the sanity of the plaintiff, which resulted in an improper commitment to the Middletown State Asylum for the Insane. This action was tried before a jury by the personal attorney for the two physicians, and the case, unfortunately, resulted in a verdict of $25,000 against the physicians. Your Counsel took no part in the trial and was not consulted with reference to it.

After the verdict had been rendered all the papers in the case were transferred to the State Society and its Counsel for appeal. The main question tried by the jury in this action was as to whether or not the patient *was sane* at the time the commitment was signed by the doctors. Your Counsel believed that the only question which should have been tried was as to whether or not the doctors *had properly examined* the patient; whether or not she was insane was only a collateral matter. Encouraged by a verdict for $25,000, plaintiff retained eminent counsel to fight the appeal, and in June last the appeal was argued before the Brooklyn Appellate Division and a decision was rendered by the unanimous Court, setting the verdict aside and granting the defendants a new trial.

The importance of the foregoing litigation to the public, as well as to the medical profession, can hardly be overestimated. If the verdict were allowed to pass a precedent would have been established. Examiners in lunacy all over the State would hardly be willing to certify to the insanity of any person, and the public would be endangered accordingly. Such a verdict, if allowed to stand, would be so far-reaching in its unfortunate results that eventually no Examiner in Lunacy would be safe from attack, if a few law witnesses could be secured who would testify to the sanity of the individual patient. In this particular case some fifteen lay witnesses were allowed by the court to testify that in their opinion the patient was sane, and with such testimony offered and admitted the jury assumed the right to decide that the doctors were careless and negligent, and that the patient was sane, and, therefore, in effect, illegally imprisoned.

A case reported in my annual report of last year as having resulted in a verdict against a doctor was, during the past year, also set aside.

Unfortunately, just at the close of this year's work a verdict for $500 was secured. A notice of appeal is about to be served. The details of this case appear in the detached list of cases, and in more than ten years of my activities in malpractice actions stands as the only verdict secured.

It will be gratifying to the members of the State Society to know that the malpractice defense initiated in this State is daily gaining in national importance. Sister societies of various States are becoming imbued with the determined fight made against blackmail here, and the medical profession is fast coming to realize how important it is that its members throughout the United States should stand shoulder to shoulder in repelling an attack than which there is no litigation more vicious and far-reaching in its importance, not only in its effect upon the profession, but also by its indirect influence upon the public health.

I desire to thank publicly the following physicians and surgeons who have graciously and gratuitously, by earnest effort, very materially aided your Counsel in the defense of malpractice actions:

Dr. Henry R. Hopkins, Dr. Charles G. Stockton, Dr. George J. Eckel, Dr. John L. Eckel, Dr. Grover W. Wende, Dr. Philip Conboy, Dr. Albert C. Snell, Dr. Wisner R. Townsend, Dr. Cassius D. Silver, and Dr. Elmer E. Larkin.

The following is a list of new cases begun during the year 1910:

(A) This action is one brought by the mother of an infant as Administratrix, to recover against a physician who, the complaint alleges, was negligent in not properly caring for a compound fracture at the wrist, and that by reason of this negligence the child, it is claimed, was infected by the germ of tetanus and finally lost its life. This case is on the Calendar for trial and will be reached probably during the present year.

(B) This action is a remarkable one. An infant son of the plaintiff died of a non-tubercular form of spinal meningitis. The attending physician reported the case to the Board of Health, as the rules require in that locality. The family were foreigners, and in the midst of certain burial ceremonies, the police and representatives of the Board of Health called at the home and took the body. The defendant was sued to recover the amount expended by the parents in preparation for the burial ceremony which had been interrupted, basing the

alleged claim on the attending doctor's failure to notify them that the Board of Health was liable to step in and compel them to bury the infant within twenty-four hours. The plaintiffs did not succeed.

(C) The basis of this action are allegations attempting to establish the fact that the defendant wrongfully, negligently and unskillfully advised the plaintiff and her husband that she was pregnant, and the complaint alleges she was not, and that he failed to properly treat her by reason of the mistaken diagnosis.

(D) This is another action brought by the husband alleging loss of service, based upon the same state of facts as the one next preceding.

(E) The basis of this action is a complaint by the father of a twelve-year old infant, in which it is alleged that the physician was employed to cure the infant of scarlet fever and other ailments, and that he failed to attend to the infant or to give the parents proper instructions, and did not leave adequate prescriptions; that by reason further of the defendant's negligence and mal-treatment, the child finally died.

(F) The basis of this action is improper operation, care and treatment on the patient's nose, and that in consequence of the defendant's negligence the patient's throat became injured and diseased, and in addition plaintiff alleges that the operation was unnecessary.

(G) This is an action brought against two physicians one of whom is a member of the State Medical Society, and the other is not. The basis of the action is a charge of negligence on the part of the physicians in that they did not properly attend to a fractured leg of a woman, and that by reason of their negligence plaintiff claims that it became necessary to amputate her foot. She was taken to a hospital and there operated upon.

(H) Your Counsel does not know the nature of this case. The summons in the action only was served, and it transpired that the defendant was defended by an insurance company. Your Counsel offered to co-operate with the insurance company's attorney, but that was never done. No other papers were served on your Counsel, although a notice of appearance was served on the attorney for the plaintiff.

(I) The basis of this controversy is a claim of the plaintiff that while she was being cared for by the defendant in childbirth, he treated and operated upon her so negligently and carelessly that she became diseased, had general peritonitis, suffered great pain, and that it required expert surgeons to cure her and a surgical operation in order to save her life, and that she has been made barren. She makes the added claim that the physician carelessly used unclean and improper instruments, and generally, by reason of the carelessness of the defendant she suffered unnecessary great torture, and was compelled to spend unnecessarily large sums of money to be restored to health.

(J) This action is one based upon the claim of the patient that the attending physician, although called to treat and care for an inflammation of the eye caused by the patient having emery dust in the eye, failed to examine the eye adequately, and that he also failed to give the proper care and attention and treatment to the eye, and failed to give the proper advice to those in charge of the patient. This case became a very serious one so far as the results were concerned, because the patient subsequently lost the eye entirely. There was an amusing side to this case in that the patient, evidently in order to escape cross-examination, testified that within a few hours after the emery dust had gotten into his eye he became unconscious and knew nothing for three weeks. The wife, however, furnished all the required evidence to get the case to the jury, but the whole story was absurd and it fell of its own weight. The jury promptly brought in a verdict in favor of the doctor.

(K) In this case the basis of the charge of malpractice is that the doctor did not properly care for a case of scarlatina. The action is brought by the mother as General Guardian of the child, and $20,000 is demanded. The facts disclose that the parents called in at least one other, and probably more physicians who were treating the child simultaneously. The parents disregarded the advice of the defendant in this action. I believe that the case will never even be put on the Calendar.

(L) This case has the same foundation as the one just preceding, and is brought by the father of the infant to recover for unnecessarily paying out money by reason of the doctor's negligence.

(M) In this action the plaintiff alleges that while she was pregnant she was operated on for a tumor; she claims that the defendant opened her abdomen and thereupon discovered that the supposed tumor consisted of a pregnant uterus.

(N) This action was settled by your Counsel. There was nothing else to do, as the physician stated that he had by mistake prescribed seven and one-half grains of bichloride of mercury in tablet form, for some other drug. Your Counsel looked after the interests of the doctor, and drew the general release and instructed the doctor just what step to take. No conceivable defense existed in this action.

(O) The basis of this suit was a claim by the plaintiff that the doctor had failed to adequately examine a shoulder, which the patient claims in his complaint had been dislocated. The facts were, that after repeated examinations the physician diagnosed the condition as one of the forms of infectious arthritis. On the trial of the action two X-Ray pictures were shown, proving that at the time of trial, which was about a year and a half after the injury, the head of the humerus was outside the glenoid cavity and clearly dislocated. The jury brought in a verdict for $500.00 against the defendant. Errors committed by the Trial Justice in charging the jury will demand a reversal of this judgment.

(P) No papers have been served on the doctor in this action except a summons, and therefore your Counsel does not know upon what the case is predicated. A notice of appearance was served and a complaint demanded, but none has been received. This case will be dismissed for failure to prosecute.

(Q) The basis of this action is a claim that the physician was careless in not properly treating an injury received by an infant from the use of forceps at birth, and that as a result of the negligence of the doctor, the infant who now brings the action by her mother as guardian, claims that she has been disfigured for life. From a careful reading of the physician's statement of the case, it is hard to see how any possible recovery can be had in this action.

In the above list of cases it will be noted that a large percentage of them have women plaintiffs. This matter was referred to by me in my last annual report. The only explanation is that the attorneys bringing these actions are inspired with the hope of enlisting the sympathies of a jury. Formerly a great majority of the cases were based upon alleged improper treatment of fractures, but it is evident that, discouraged in that field, attorneys have hope in this new one.

Permit me again to thank the profession of medicine of the State of New York through you for the many thoughtful courtesies extended me personally, and to assure it that without the earnest and ever-present willingness of the members of the State Society to co-operate the continued satisfactory results of organized malpractice defense in this State would have been well-nigh impossible.

All of which is respectfully submitted.

James Taylor Lewis,
December 31, 1910. *Counsel.*

REPORT OF THE COMMITTEE ON ARRANGEMENTS.

To the House of Delegates:

The Committee on Arrangements has the honor to submit the following report of the expenses of the Committee which have been paid by the Medical Society of the State of New York for the year 1910:

The Medical Society of the State of New York in Account with the Committee on Arrangements.

Printer	$4.25
Pay for pages	41.00
Stenographer, postage, stationery, etc.	6.50
Music and musicians' dinner	47.00
Signs	4.00
Calcium Light Company	12.00
Carriages for invited guests	6.50
Complimentary dinner tickets for guests	29.80
	$151.05

Expenses of the dinner paid by the Society from sale of dinner tickets, $329.00.

The Committee also begs to report that at the meeting held December 15th, the City Hall at Albany was secured for the Annual Meeting of 1911.

Respectfully submitted,
W. J. Nellis,
Chairman.

December 31, 1910.

REPORT OF THE COMMITTEE ON THE REGULATION OF THE INTRODUCTION OF MEDICAL EXPERT TESTIMONY.

To the House of Delegates:

Your Special Committee on Expert Testimony begs leave to make the following report:

A meeting of the Joint Committee was held on January 5, 1910, at the Bar Association Rooms, 42 West Forty-fourth Street, New York city, at which meeting the New York State Bar Association Committee, the Committee of the Homœpathic Medical Society of the State of New York, the Society of Medical Jurisprudence of New York, and the New York Academy of Medicine were all represented.

The hereto annexed bill, known as Assembly Bill No. 406, was agreed upon to be presented to the Legislature for the year 1910:

AN ACT.

"To regulate the introduction of medical expert testimony.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Within ninety days after this act shall take effect at least a majority of the justices of the Supreme Court assigned to the respective appellate divisions thereof in the several departments shall designate at least ten and not more than one hundred and twenty physicians in each judicial district, any of whom may be called as medical or surgical expert witnesses by the trial court or by any party to a civil or criminal action in any of the courts of this state, and who when so called shall testify and be subject to full examination and cross-examination as other witnesses are, such examination to include examination as to their competency. Any designation may at any time be revoked without notice or cause shown, and any vacancy may at any time similarly be filled by the justices sitting in the respective appellate divisions.

2. When so directed by the trial court, witnesses so called shall receive for their services and attendance only such sums as the trial judge presiding in such case may allow, to be at once paid by the treasurer or other fiscal officer of the county in which the trial is had.

3. This act shall not be construed as limiting the rights of parties to call other expert witnesses as heretofore.

4. This act shall take effect September first, nineteen hundred and ten."

This bill was introduced in both Houses of the State Legislature and a hearing was held before the Assembly Codes Committee on April 27, 1910, at which hearing your Committee was well represented. The bill was reported favorably by this Committee and was passed by the Assembly.

A hearing on the bill was given before the Senate Judicary Committee on March 29th, which was the first hearing ever given by the Senate on this bill. The Senate Committee seemed to take considerable interest in the bill, but it was claimed that, owing to the graft exposure and the trial which occupied the attention of the Senate last year, it was impossible for very much attention to be paid to it in the closing hours of the session.

Your Committee begs leave to report progress, and will introduce the bill again this year.

Respectfully submitted,
Dwight H. Murray, *Chairman.*
A. Walter Suiter,
A. T. Bristow,
Edward D. Fisher.
Dec. 31, 1910. J. A. Wyeth.

REPORT OF THE COMMITTEE ON SCIENTIFIC WORK.

To the House of Delegates:

The Committee on Scientific Work begs to submit the following report for the year ending December 31, 1910:

The Annual Meeting of 1910 was held in Albany, January 25th and 26th, and a full and com-

plete scientific program, which was well discussed, was presented to the members. Reports of the discussion and the papers have been printed in full during the past year in the New York State Journal of Medicine. Preparations are well under way for the meeting of 1911, and, according to the resolution of the House of Delegates, this meeting will take place on Tuesday, April 18th, and Wednesday, April 19th. The preliminary program was printed in the March, 1911, issue of the Journal, page 143.

Respectfully submitted,

L. H. Neuman, *Chairman.*

December 31, 1910.

REPORT OF COMMITTEE TO CONSIDER QUESTION OF INCREASING INTEREST IN THE SOCIETY.

To the House of Delegates:

The Committee appointed by the House of Delegates at its last meeting to consider the question of increasing interest in the Society begs to report that in their opinion the best method of doing this is to increase interest in the county societies, and that if these organizations are improved the membership of the Society will naturally increase.

The Committee desires at the present time to express its appreciation of the good work that has been done by the various county societies in this State, and in no sense does it desire that this report shall be considered as a criticism or reflection on what has been done. Your Committee realizes that great differences exist in the various county societies in this State, largely dependent upon the rural or urban character of the membership. No rule can be laid down that will apply equally to a large city society and one located in a country district where roads are bad and distances between villages great, and even in some of the counties of New York the physicians are so few and so far scattered that it is impossible for them to hold meetings without sacrificing a great amount of time and without putting themselves to great personal inconvenience by traveling long distances.

In Hamilton, Putnam and Essex counties no county societies exist. They are all sparsely settled, and most physicians residing in them live on the edge of the district and are members of adjacent county societies. In the counties of Queens and Nassau there is a county society comprising men residing in both counties, and it is doing very good work.

The fifty-eight county societies of the State represent at the present time a membership of about 7,000, and while there has been a steady growth each year it is not large. If State, District Branch, and County Society meetings are improved, increased growth will necessarily follow.

From a careful study of this question both in this and other States, and from a perusal of the literature on the subject, the Committee desires to present a few suggestions which may be of use to those in charge of county societies, and would recommend that they be printed and kept on file by the State Society with the object of supplying them to all newly elected officers in the county organizations.

Respectfully submitted,

William Francis Campbell, *Chairman.*
William H. Thornton.
Wisner R. Townsend.

December 31, 1910.

Suggestions for Increasing Interest in County Societies.

1st. Improved programs. Interest in the meeting depends largely on the attractiveness of the program.

2d. Take up post-graduate course as recommended by American Medical Association. This systematizes the programs.

3d. Confer with State Board of Health for at least one meeting a year on public health matters. Co-operation with the Health Department is essential to the welfare of the community.

4th. Have at least one reader a year from a distance. Confer with Committee on Scientific Work of State Society if necessary. It will be glad to suggest names of those willing to render such service.

5th. Arrange for one or more clinical meetings a year. Select subject and request all who have proper cases to bring them before the Society; then have a discussion on the same, always with the understanding that discussion of the case shall not be held in the presence of the patient; otherwise, frequently patients cannot be shown for obvious reasons.

6th. Arrange for demonstrations by bacteriologists and pathologists with specimens, lantern slides, etc.

7th. Arrange for social part of meeting. Some light refreshments at the close of the meeting are an adjunct to fraternal intercourse.

8th. See that meetings are held often enough to keep up interest. Once or twice a year is not enough. Invite every member of the profession in the county to at least one meeting a year, not necessarily inviting them all to the same meeting. In counties where men do not show a willingness to write papers either designate writers for different meetings or see that outsiders are invited—in other words, *see that the meetings are made interesting.* It should be the aim of every County Society to secure a permanent home; a small library, with a supply of current journals, and the use of the larger libraries for reference books will greatly increase interest in the county organization.

9th. Arrange the time of meeting to accommodate the largest number of members. Where men come from long distances, an evening session is obviously the most inconvenient. An afternoon session will often appeal to a larger number of men when it permits them to reach their homes at a seasonable hour.

10th. Select as officers men who are willing to work. Keep good men in office. Do not promote those who have shown they will not attend to the duties assigned them. Efficiency is the only criterion of leadership. "No physician should accept office unless he is prepared to give the position the attention that it deserves and unless he is interested in the work."

11th. In small societies do not unduly multiply offices—the Secretary's and Treasurer's duties can be best done by one man. Always supply officers with clerical help if work is onerous. Detailed drudgery work should not be asked of men serving for others without compensation.

12th. Make the dues large enough to warrant conducting the Society work in a proper manner. Those who object to the amount of their dues usually do so because they are not receiving full value for them. Give back a dollar in value for every dollar paid in and complaints will be few.

13th. Provide a Committee on Entertainment who shall welcome new or prospective members or guests at meetings. The officers of the Society may be active or *ex officio* members of such committee. Newly registered physicians should be visited by such committee or written to and asked to join the County Society.

14th. See that the meetings, programs and proceedings are published regularly and promptly in the State Journal.

15th. Have high ideals. Be liberal yet firm in maintenance of a high ethical standard. Educate the public. Be a power for good in the community. Do not be ashamed of the County Society or apologize for it; make it better. Attend all meetings and see that others do the same. "The County Society is a conservator of patriotism and worthy citizenship."

REPORT OF COMMITTEE TO CONSIDER DR. STOVER'S RESOLUTION REGARDING NURSES' TRAINING SCHOOLS.

To the House of Delegates:

This Committee was appointed a year ago in response to a resolution reading as follows:

"Moved that the President appoint a Special Committee on Nurses' Training Schools, consisting of five members, to confer with the State Department of Education when necessary; to affiliate with other organizations in matters of common interest; to co-operate with the Committee on Legislation; and generally advance the mutual interests of this Society and Nurses' Training Schools."

For the past few years there had been a scarcity of nurses in the hospitals over the State so that the efficiency of some of them was seriously compromised, the embarrassment being especially noted among the smaller and moderate sized hospitals, but by no means limited to them. It was reported, also, that the State Department of Education would consider suggestions aimed at the correction of any faults existing, and shape legislation, if necessary, to that end. Therefore, the Committee was appointed. The Department of Education requested a conference, which was designated for September 29, 1910. This was attended by representatives of the State Medical Society the State Nurses' Association, the State hospitals, and the Board of Regents; Miss Alline, State Inspector of Nurses' Training Schools; Prof. Andrew S. Draper, Commissioner of Education, and Dr. Augustus S. Downing, First Assistant Commissioner. After a full discussion it was evident that no agreement could be reached as to any legislative enactment that would relieve the situation, and it was decided that there would be no legislation sought during this year, but that the Department would endeavor to meet the difficulties so far as possible by administrative measures. In justice to the State Department, it should be stated that it had nothing to do in framing the original Nurses' Practice Act of 1903. It has, however, been responsible for the subsequent schedules on entrance qualifications and professional training. The former was determined on an eight year grammar school course and one year of high school.

The following tables compiled from reports for 1909 present the results of the application of this standard:

Educational Qualifications for Admission.

		Approximate Per cent.
Four years High School	814	31
Three years High School	266	11
Two years High School	420	16
One year High School	381	12
Equivalent of one year of High School	767	29
Total number of pupils	2,648	

If 29 per cent. of those admitted cannot pass a one year High School examination, and if even then there remains a shortage of nurses, it is a fair conclusion that the standard for entrance in New York is too high for practical results.

It will be of interest to examine the standards of entrance qualifications of other States.

1. States requiring a preliminary *Four Year High School Course:*

Delaware (or its equivalent),
Maryland (or its equivalent),
North Carolina,
West Virginia.

2. State requiring *One Year of High School* after eight years of Grammar School (or its equivalent):
New York.

3. States requiring the completion of *Grammar School Course:*
California,
Michigan (or its equivalent),
Missouri (or its equivalent),
Minnesota,
Nebraska,
Oklahoma.

4. State requiring *One Year* in an approved *Secondary School:*
New Hampshire.

5. State requiring *Common School* education (or its equivalent):
Indiana.

6. Territory requiring education in *Reading, Writing* and *Arithmetic:*
Porto Rico.

7. States where requirement is prescribed by *Board of Administration:*
Illinois,
Virginia,
Wyoming.

8. States where no preliminary education is required:
Colorado,
Connecticut,
District of Columbia,
Georgia,
Iowa,
Massachusetts,
New Jersey,
Pennsylvania,
Texas,
Washington.

Probably the school grades of the various States are not precisely alike, but they are sufficiently so for this comparison. It would be interesting to know how much more valuable *as a nurse* is the woman from Delaware, Maryland, North Carolina, West Virginia and New York, with their high entrance qualifications, when compared to the one from Connecticut, Massachusetts, New Jersey and Pennsylvania, with no preliminary requirement. Do the schools in the States last listed have more pupils because of the low standard for entrance? It was the opinion of Miss Alline, the State Superintendent of Nurses' Schools, that the scarcity was quite general over the United States. When asked as to the causes leading up to this shortage, the following were given:

Increasing opportunities for commercial employment of women; the keener appreciation of the fact that nursing involves hard work, both in preparation and practice; and, associated with this, inadequate housing and feeding of the pupil nurses in some of the hospitals.

Professional Training.

The following table represents the term of professional training as applied in the various States:

Three Years' Hospital Course:
California,
Delaware,
Georgia,
Illinois,
Iowa,
Maryland,
Minnesota,
North Carolina.

Two Years' Hospital Course:
Connecticut,
District of Columbia,
Indiana,
Michigan (after 1912),
Missouri (after 1912),
Nebraska,
New Hampshire,
New Jersey,
New York,
Oklahoma,
Pennsylvania,
Texas,
Virginia,
West Virginia,
Wyoming.

Term Determined by Board:
Porto Rico,
Washington.

None:
Massachusetts.

Thus it is seen that New York State gives the "R. N." to the graduates of both the second and third year schools, but the second year students cannot be utilized to care for patients outside of the hospital, while the third year student may be so used for three months of the third year to earn money for the hospital.

Licensing Tests.

All of the States heretofore enumerated, with the single exception of New Jersey, have provided for examinations of nurses of State authority or for license from another State Board having equal requirements.

Registration of Nurses.

Following is a classification of the States as to the registry of nurses:

States requiring *Registry by the State Board:*
California (triennially),
Colorado,
Connecticut,
Delaware,
District of Columbia,
Georgia,
Illinois (and County Clerk),
Indiana (and County Clerk),
Iowa (and County Clerk),

Maryland,
Minnesota,
Nebraska,
New Hampshire,
North Carolina (and clerk of County Court),
Oklahoma,
Pennsylvania,
Texas,
Virginia,
Washington,
West Virginia,
Wyoming.

Registry by the Secretary of Commonwealth:
Massachusetts.

Registry with County Clerk only:
Michigan,
Missouri,
New Jersey,
New York (triennially).

No Registry:
Porto Rico.

It appears from the Nurses' Training School statistics compiled by the New York State Board of Education that while there were 1,018 nurses given diplomas by their hospital schools, not more than 471 applied for the State examination for registered nurse; that is only about 45 per cent.

A consideration of the above facts, with the common knowledge that hospitals differ so much as to number of beds, financial resources, range of service, teaching facilities, etc., etc., will impress one with the extreme difficulty, if not impossibility, of standardizing the instruction of nurses by any common measures. Nevertheless, the law having been passed and relegated to the Board of Regents for administration, it was necessary for the Department of Education to do something. Naturally, the problem would be approached from the standpoint of pedagogy, and methods applied that were in use in other departments of instruction. The hospital administrator, however, with other experience, would with equal certainty regard the subject from his viewpoint. Thus the president of the Board of Trustees of one of our hospitals, in a letter to this committee, remarked: "It is more important that the people have small hospitals than that a few highly educated and trained nurses obtain the thus-far little coveted title of 'R. N.,' and again, when we consider that only about 6 per cent. of the school population ever gets to the high school (and only 1 per cent. of that 6 per cent. graduate), then dividing these figures by two on the assumption that the sexes are equally divided, we shall see how absurd it is to require hospital boards to fill their training schools with girls who have had at least one year in the high school—3 per cent. to choose from, three out of every hundred. It is asking an impossibility, for no such number care to become nurses."

Another opinion was as follows: "Personally, I favor leaving the question of a pupil's admission entirely in the hands of the superintendent of the training school, because she can be trusted to secure the best possible, and if after the course of training the pupil cannot pass the final examination she will fail to receive the title of Graduate Nurse."

To sum up the matter, the State has undertaken to raise to the rank of the profession a vocation that is subordinate to that of medicine.

A bright, active woman can properly acquire the art of nursing by the practical training she receives during a two years' course, supplementing this by a third year if she proves suitable for special work. It ought to be recognized by the hospital authorities that the hours of work should be curtailed by increasing the corps of nurses, so that there may be sufficient time for study and recreation on the part of the nurse. The State Board of Education must inevitably continue to recognize "equivalents" if it continues the present standard of entrance qualifications, or lower that standard to less than a grammar school education if the hospitals over the State are not to be seriously disturbed in their finance and equipment of nurses.

The nursing and care of the sick is the primary function of the hospital; the training of nurses is a subsidiary one, that can be effected, however, to the mutual satisfaction of both the hospital and the nurse. So far as registration and the "R. N." are concerned, it is apparent that not one-half of the nurses graduated care enough for it to enter the examination. As remarked by one of the recognized authorities on nursing questions, we have the "registered nurse" of four kinds—those training in hospitals for three years, those for two and a half years, and those for two years, and those registered with no hospital training at all; then there is the "graduate nurse," who likewise is of the same number of varieties, but unregistered; then in addition there are the short course school graduates, correspondence school graduates, "certified" domestic nurses, "experienced" nurses, and "practical" nurses, besides hundreds of just common, very common, "nurses" without any distinguishing adjectives as appendages before or after their names. Time will show, if it has not already, how much the public is benefited by State regulation of nurses when so small a part of them come under its jurisdiction.

Meanwhile, your committee is of the opinion that the State should recognize the nurse problem as an experimental one, to be regulated at present by wise administration rather than by legislation.

Respectfully submitted,

Charles Stover, *Chairman.*
Egbert Le Fevre,
Alexander Lambert.
Roswell Park.

December 31, 1910.

REPORT OF COMMITTEE ON CELEBRATION OF DR. JACOBI'S EIGHTIETH BIRTHDAY.

To the House of Delegates:

At the last session of your distinguished body a resolution relating to a proper recognition of the eightieth birthday of Dr. A. Jacobi was adopted.

It was determined by the Committee to extend to Dr. Jacobi a reception on the evening of his eightieth birthday and at that time present him with a three-quarter length "portrait relief" of himself. For the purpose of the occasion $2,179 was raised, $1,939 by direct contributions, the remainder from the sale of casts of the portrait relief. I will not weary you with a detailed statement of expenditures, but, instead, state at once that the chief outlays related to invitations and postage, refreshments, music, and the portrait relief, the last of which cost three hundred dollars. We have the satisfaction of announcing that the function was an eminent success and that the receipts and expenditures exactly balanced until some time thereafter, when a dollar came from up the State, sent, no doubt, by some one whose pride or conscience had experienced an awakening. The dollar will constitute the nucleus of a sinking fund preparatory to celebrating again in honor of Dr. Jacobi on his ninetieth birthday.

It is hoped that the invitation mailed to each member of the Society was gladly received and is being fondly cherished.

Respectfully submitted,

JOSEPH D. BRYANT,
Chairman.

December 31, 1910.

REPORT OF THE COUNCILOR OF THE FIRST DISTRICT BRANCH.

To the House of Delegates:

I have the honor to report that the annual meeting was held at Newburgh on the afternoon of October 27, 1910. The scientific part of the meeting was all that could be desired. In all there were seven papers presented besides the President's annual address. The Committee on Entertainment had performed their work well. The main dining-room of the Palatine Hotel had been reserved for the use of the members and their guests, where an elaborate buffet luncheon was served and a social hour enjoyed before the scientific session. The day of the meeting was a beautiful day, and the attendance was helped thereby by the medical autoists and their friends from Orange and Rockland counties. New York, Westchester, Dutchess and Putnam were not as well represented as they should have been.

A resolution was passed endorsing the amendment to the Agricultural Bill prohibiting the cold storage of undrawn poultry, as repeatedly introduced in our State Legislature by Dr. Cavana, of Oneida, the last few years. During the past year there has not been any great change in the membership of the different County Societies in the district. In order to increase the interest in the District Branch meetings I would suggest that the President of each County Society be called upon by the President of the District Branch to furnish one paper from some one of his members for the annual meeting, so that all counties would be represented in the scientific part of the program as well as securing the attendance of other of his members to attend the meeting and take part in the discussions. In other words, I would make the presidents of the various County Societies bear part of the responsibility of making the District Branch meeting a success in the matter of attendance as well as in the scientific program. Where the meeting is held outside of New York city, it should be held earlier in the Fall than it has been. If held in September or earlier in October, when the days are delightful for autoing, experience has shown that the attendance has been greatly augmented by those who possess a car as well as by the others who glady accept the invitation to join the party.

The officers chosen for the ensuing year were as follows: President, W. Stanton Gleason, of Newburgh; Vice-President, D. B. Hardenbergh, of Middletown; Secretary, C. E. Denison, of New York; Treasurer, James E. Sadlier, of Poughkeepsie. The Executive Committee was directed to select Tuxedo Park for the next annual meeting on the invitation of Dr. E. C. Rushmore of that place.

Respectfully submitted,

THEODORE D. MILLS,
President First District Branch.

December 31, 1910.

REPORT OF THE COUNCILOR OF THE SECOND DISTRICT BRANCH.

To the House of Delegates:

The Second District Branch, owing to its rather difficult geographical arrangement and the fact that the Kings County Society has so many and such excellent scientific meetings of its own, has found it practical to hold but a single meeting each year. These meetings have always offered most excellent scientific programs, but have not been as largely attended as we could wish. The meeting this year was held in New Brighton, Borough of Richmond. The program was prepared with a great deal of care, and an attractive collation was furnished by the Richmond County Society. The meeting was enthusiastic and interesting, but the attendance was not sufficiently large to warrant the holding of another Second District Branch meeting in this borough. Very few of the Richmond County Society members

have attended the meetings held on Long Island, and there seems to be very little of common local interest to bring the two sections together. Personally, I feel that it would be of advantage to the Richmond County Society if it could be transferred from the Second to the First District Branch, as has been suggested by the Secretary of the State Society.

The following officers were elected for the ensuing year: President, Frank Overton, Patchogue; Vice-President, Walter B. Chase, Brooklyn; Secretary and Treasurer, Victor A. Robertson, Brooklyn.

Respectfully submitted,

George P. Jessup,
President Second District Branch.

December 31, 1910.

REPORT OF THE COUNCILOR OF THE THIRD DISTRICT BRANCH.

To the House of Delegates:

The fourth annual meeting of the Third District Branch of the Medical Society of the State of New York was held at Albany, N. Y., October 5, 1910.

The morning session at the Albany Hospital was devoted to the demonstration of the modern methods of clinical diagnosis with illustrative cases. At noon the visiting physicians were taken in automobiles to the Albany Hospital Sanitarium for Tuberculosis, where they were given the opportunity of inspecting the present-day care of such patients. On their return lunch was served at the Albany Hospital.

The afternoon session at the Historical and Art Society was given over to the reading of scientific papers complemental to the demonstrations of the forenoon.

Dr. Simon Flexner, Rockefeller Institute, New York, delivered the principal address on Infantile Paralysis.

The evening session was purely social, and consisted of short travel talks with stereopticon slides, followed by a smoker and reception to the President-elect at the University Club.

The attendance was most gratifying. Eighty members attended the morning session, more than two hundred the afternoon meeting, and a considerable number remained for the travel-talks and reception.

The arrangement of the meeting seemed to receive general approval.

The following officers were elected for the ensuing year: Dr. Mark O'Meara, of Kingston, President; Dr. John B. Harvie, of Troy, Vice-President. The Secretary, Dr. H. L. K. Shaw, and the Treasurer, Dr. S. V. Whitbeck, were re-elected.

Kingston was selected for the next annual meeting on the first Tuesday in October, 1911.

The county societies of this district are in a flourishing condition. Albany and Rensselaer County societies have held unusually attractive meetings and have been favored by addresses from Professor Cohnheim, of Heidelberg, and Professor Chian, of Strasberg.

Respectfully submitted,

Andrew MacFarlane,
President Third District Branch.

December 31, 1910.

REPORT OF THE COUNCILOR OF THE FOURTH DISTRICT BRANCH.

To the House of Delegates:

The Fourth District Branch annual meeting for 1910 was held at Schenectady, N. Y., September 27th. A scientific program was carried out, consisting of a morning and afternoon session.

During the evening the Society assisted the Schenectady County Medical Society in celebrating its centennial anniversary. Clinics were held the next morning in the Ellis and Physicians' hospitals, to which the members of the Society were invited.

The different counties of the Fourth District Branch were well represented at this meeting. The Secretary of the Medical Society of the State of New York was present and addressed the meeting.

The Fourth District Branch includes eleven of the most northerly and mountainous counties of the State. Some of these counties contain many acres but few people, so that a medical society cannot be established or maintained. Hamilton County has but two physicians, and, of course, no medical society. These two physicians affiliate with the Fulton County Medical Society. Essex County covers a large and mountainous territory, with its few physicians widely separated. It has no medical organization.

With the exception of Hamilton and Essex counties, each of the other nine counties of the Branch maintain a live and interesting County Medical Society. Some of these societies meet monthly, and an interesting scientific program is always carried out. Some meet quarterly and others only semi-annually, but scientific papers are always interestingly and intelligently discussed.

Altogether the Fourth District Branch is in a highly flourishing state. There is no sentiment in the Fourth District Branch for a redistricting of the branches.

Respectfully submitted,

Dayton L. Kathan,
President Fourth District Branch.

December 31, 1910.

REPORT OF THE COUNCILOR OF THE FIFTH DISTRICT BRANCH.

To the House of Delegates:

The Fifth District Branch was unfortunate in losing through death its duly elected President, Dr. J. W. Eddy, of Oswego. Dr. Eddy was greatly interested in the work of this Branch, as, indeed, he was of the various medical societies to which he belonged and in which he took an active interest. His plans for the annual meeting of the Branch were well under way when death overtook him on March 12, 1910. He was fifty-eight years old at the time of his death. He was one of the most widely known physicians of Central and Northern New York. Few medical men in this section of the State had so wide an acquaintance among the profession and very few so many friends. He was a man of strong character and firm conviction, was of a most sociable nature, and was the center of any gathering he happened to be in. His practice both in general medicine and surgery was very large.

This Branch has lost other members during the past year; among them three men who have been very prominent not only in their communities, but in the medical world of the State. They are Drs. Ely Vander Warker, of Syracuse; James D. Spencer, of Watertown, and Frank S. Low, of Pulaski.

Because of the vacancy existing in the office of President through the death of Dr. Eddy, and of the resignation of Dr. John L. Heffron as Vice-President, the Council of the State Society at its meeting in June elected T. H. Halsted, of Syracuse, and W. C. Todt, of Oswego, to fill the unexpired term as President and Vice-President, respectively. This break in the officers of the Society in the middle of the year interfered with the duty of the President to visit the various county societies of the Branch. These societies, of which there are five, are all in a satisfactory condition.

The annual meeting of the Fifth District Branch was held in Syracuse on October 19th. There was a large attendance, more than two hundred being present at the meeting. The scientific program called for seventeen papers, and of this number fifteen were presented. They were all of a high order and were freely discussed. Two of the papers were read by guests from beyond the district, viz., by Dr. L. Kast, of New York, and Dr. J. M. H. Rowland, of Baltimore.

At a business session, discussion of the plan to redistrict the State into Branch societies took place. The Society took the position that the present judicial districts were not satisfactory so far as the scheme for branch medical societies is concerned and favored action looking to a better division. This Branch thought it unwise, however, to ask for a change in its particular make-up unless there be a general plan for redistricting the State into branch societies. At the same time it favored the admission to it of any county society that desired it. Madison County Medical Society sent a representative asking that this District favor its admission. Madison County, which belongs to the Sixth District Branch, is located geographically in the midst of the Fifth District, lying between Oneida and Onondaga counties. The Society favored action that would permit the granting of Madison County's request.

The members of the Onondaga Medical Society tendered a luncheon to the visiting members at the Onondaga.

In the evening a banquet of the Fifth District Branch and the Central New York Medical Society (which met in Syracuse on the following day) was held at the Onondaga Hotel and was attended by about 175 persons. It was the largest Medical Dinner ever held in Syracuse. The speakers were Prof. William H. Welch, of Johns Hopkins; Dr. John Marshall, of the U. S. Army, and Hon. Frank H. Hiscock, Justice of the Court of Appeals. On the day following our meeting the Central New York Medical Society held its meeting. Many members of each society attended both meetings. The opinion was often expressed that this combination meeting equalled in point of attendance and in the quality of the papers presented the average annual State Society meeting held in Albany. It also demonstrated that Syracuse is capable of entertaining the State Society should this society decide to move about to the various larger cities of the State.

The following officers were elected for the ensuing year: President, Dr. Arthur A. Gillette, Rome; Vice-President, Dr. C. A. Frost, Utica; Secretary, Dr. F. H. Flaherty, Syracuse; Treasurer, Dr. H. A. Hoyt, Watertown.

Respectfully submitted,

T. H. Halsted,
President Fifth District Branch.

December 31, 1910.

REPORT OF THE COUNCILOR OF THE SIXTH DISTRICT BRANCH.

To the House of Delegates:

The work of the Sixth District Branch for this year has been satisfactory. A very successful annual meeting was held in Cortland, N. Y., with seventy-five physicians present. There were fourteen numbers on the program, with thirteen present to read. We had with us Dr. Robert T. Morris, of New York; Dr. Christopher Graham, of Rochester, Minn., and Dr. A. T. Bristow, of Brooklyn, editor of the *New York State Journal of Medicine*. The papers which they read were enthusiastically received, and were of special interest because of their real worth to the thoughtful

physician. The remaining numbers of the program were excellent.

All the presidents of the counties comprising the Sixth District Branch were communicated with; some more than twice. Many of the presidents co-operated with the management and made the meeting what it was; others failed to co-operate.

It was suggested that the place of meeting should be chosen with a consideration for the convenience of transportation for the greatest number. Some thought a two days' meeting should be contemplated.

Dr. Sherman Voorhees, of Elmira, was elected President for 1911; Dr. Frederick Miller, of Binghamton, Vice-President, and Herbert W. Fudge, of Elmira, Secretary and Treasurer. The next meeting will be held at Elmira.

Respectfully submitted,

Frank DeWitt Reese,
President Sixth District Branch.

December 31, 1910.

REPORT OF THE COUNCILOR OF THE SEVENTH DISTRICT BRANCH.

To the House of Delegates:

The Fourth Annual Meeting of the Seventh District Branch was held at Geneva on Thursday, September 15, 1910. Nearly one hundred members attended the session.

Sixteen excellent papers were read, the entire number announced in the program.

The most gratifying feature of the meeting was that the entire list of contributors were members of the district. The high order of value of the papers and the keen interest shown in their reading and in the discussions augured well for the future growth of the Branch as a center of scientific medical culture.

The need of such meetings where the members of neighboring county societies might combine generous mental contest with enjoyable social fellowship has been long felt, and the training which is thus afforded the relatively inexperienced may in time furnish our State meetings a menu of more than one kind of nuts to crack.

The selection of Rochester as the next place of meeting, with Dr. Wesley T. Mulligan as President for the ensuing year, assures a largely increased attendance at the next annual meeting. The other officers elected were: Dr. H. R. Ainsworth, of Addison, Vice-President; Dr. J. F. Myers, of Sodus, Secretary; Dr. H. J. Knickerbocker, of Geneva, Treasurer.

There has been increased interest in Society work throughout the entire district. A gratifying result has been a greatly improved ethical standard and a most pleasing professional comity among the members.

Respectfully submitted,

W. W. Skinner,
President Seventh District Branch.

December 31, 1910.

REPORT OF THE COUNCILOR OF THE EIGHTH DISTRICT BRANCH.

To the House of Delegates:

Pursuant to law I herewith transmit my report for the current year. I have been able to visit only four of the eight counties in my district, viz., Erie, Niagara, Genesee and Orleans. I can report these as being in a satisfactory condition, Erie County especially showing up in a most magnificent manner. The influx of new members to this County Society during the current year has been unprecedented in its history. The President of the Eighth District Branch would be only too happy to claim some credit for this, but the praise must go where it properly belongs—to the efficient officers of that organization and to their loyal co-workers.

Our annual meeting at Buffalo in September was a pronounced success. The attendance was very large and the quality of the scientific work excellent. I believe, in time, it will be borne in upon the minds even of those members of the district who live in the most outlying sections that a visit to the annual meeting of their Branch will more than repay the necessary expenditure of time and effort involved. The informal banquet at the University Club was also an enjoyable affair.

Altogether, I cannot but feel that the past year has been one of progress for this Branch, and it is a matter of deep gratification to me, in relinquishing the office of President, to know that the mantle will fall upon the capable shoulders of my friend and co-worker, Thomas McKee, of Buffalo. The other officers elected for 1911 were H. A. Eastman, of Jamestown, 1st Vice-President; A. G. Bennett, of Buffalo, 2d Vice-President; Carl Tompkins, of Buffalo, Secretary; Charles A. Wall, of Buffalo, Treasurer.

Respectfully submitted,

Edward Munson,
President Eighth District Branch.

December 31, 1910.

Medical Society of the State of New York

ANNUAL MEETING OF THE HOUSE OF DELEGATES OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The regular annual meeting of the House of Delegates of the Medical Society of the State of New York was held in the City Hall, Albany, April 17, 1911, at 8.30 P. M. Dr. Charles Stover, President, in the chair; Dr. Wisner R. Townsend, Secretary.

Present—Charles Stover, President; J. W. Grosvenor, First Vice-President; Wisner R. Townsend, Secretary; Alexander Lambert, Treasurer; L. H. Neuman, Chairman Committee on Scientific Work; Frank Van Fleet, Chairman Committee on Legislation; J. M. Van Cott, Chairman Committee on Public Health; W. J. Nellis, Chairman Committee on Arrangements, also the following Councilors—Dayton L. Kathan, Fourth District Branch; W. W. Skinner, Seventh District Branch, and Edward Munson, Eighth District Branch.

On roll call the following delegates answered to their names: S. R. Morrow, L. H. Neuman, S. B. Ward, G. H. Witter, C. G. Wagner, C. L. Lang, F. C. Rice, G. V. R. Merrill, Paul B. Brooks, Z. F. Dunning, R. W. Atwater, R. B. Lamb, I. D. LeRoy, F. C. Busch, B. Cohen, G. J. Eckel, A. W. Hurd, J. H. Pryor, W. H. Thornton, G. W. Wende, G. M. Abbott, J. D. Vedder, M. P. Messinger, W. A. Wasson, I. M. Meader, E. H. Bartley, W. Browning, E. E. Cornwall, C. N. Cox, J. C. Hancock, R. L. Dickinson, J. H. B. Dowd, J. W. Fleming, O. A. Gordon, O. P. Humpstone, J. Merzbach, J. R. Kevin, G. F. Little, P. Scott, J. C. MacEvitt, J. M. Van Cott, J. M. Winfield, P. H. von Zierolshofen, G. K. Collier, O. Pfaff, W. D. Mulligan, O. E. Jones, N. D. McDowell, J. O. Roe, C. D. Young, H. M. Hicks, D. B. Brinsmade, LeRoy Broun, W. L. Carr, F. M. Crandall, C. Dederer, D. S. Dougherty, F. S. Fielder, M. L. Foster, R. Guiteras, E. E. Harris, W. P. Healy, W. B. Hoag, H. S. Houghton, E. LeFevre, M. S. Macy, R. S. Morton, A. Parry, V. C. Pedersen, C. H. Richardson, L. L. Seaman, H. M. Silver, I. D. Steinhardt, W. W. Strang, A. Sturmdorf, W. S. Thomas, J. E. Weeks, B. H. Wells, H. W. Wootton, H. H. Mayne, W. A. Scott, C. Bernstein, H. G. Jones, F. Flaherty, D. H. Murray, W. W. Skinner, W. J. Carr, J. H. Taylor, J. K. Stockwell, B. W. Dewar, J. B. Harvie, W. Kirk, E. S. Rimer, S. W. S. Toms, W. B. Hanbidge, J. T. Sweetman, Jr., W. P. Faust, J. K. King, H. B. Smith, B. R. Wakeman, M. B. Heyman, F. Overton, M. B. Tinker, J. M. Griffin.

A quorum having answered to their names on the preliminary roll call, the meeting was declared open for business.

The Secretary read a communication from Dr. F. R. Sturgis, protesting against the seating of Drs. Louis Faugères Bishop, James M. Hitzrot, and Ralph Waldo, as delegates.

The President stated that if there was no objection he would appoint a committee on contested seats. On motion duly seconded and carried, the matter was referred to a committee consisting of Drs. Samuel B. Ward, Bernard Cohen, and G. H. Witter.

The President: The first order of business is the reading of the minutes of the previous meeting.

The Secretary: These minutes have all been printed in the New York State Journal of Medicine for March, 1910.

On motion duly seconded and carried, the reading of the minutes was dispensed with and they were adopted as printed (See New York State Journal of Medicine, vol. 10, No. 3, p. 163).

Dr. Richardson as Chairman of the Delegates from the Medical Society of the County of New York, under Article 4, Chapter 3 of their Constitution, presented the names of Dr. G. H. Fox in place of Dr. D. D. Ashley absent, and Dr. I. T. Smart in place of Dr. R. Stein absent.

The names were called by the Secretary, and the President declared them entitled to sit as delegates.

The First Vice-President, Dr. J. W. Grosvenor of Buffalo, took the chair, and President Charles Stover delivered his annual address to the House of Delegates (See page 218).

On motion of Dr. E. Eliot Harris, duly seconded, the address was referred to a committee of three, consisting of Drs. Hicks, Thornton and Crandall, who were to report the next morning.

President Stover then resumed the chair.

The President: The next in order is the report of the Council.

Dr. Harris moved that the report of the Council be referred to the committee already appointed. Seconded and carried.

Dr. L. L. Seaman, of New York, moved inasmuch as there were no recommendations contained in this report, that the report be adopted as printed. Seconded and carried (See page 222).

The President: The next is the report of the Secretary.

Moved by Dr. LeFevre, seconded by Dr. Wells and carried, that the report be adopted (See page 219).

Moved by Dr. Neuman, seconded and carried, That the same action be taken with regard to the report of the Treasurer (See page 220).

The President: The next is the report of the Committee on Legislation (See page 223).

Moved by Dr. Harris, seconded and carried, That the report be accepted.

The President: The next report for consideration is that of the Committee on Public Health. This report contains more new matter than the others bearing on the more recent developments of state medicine or allied topics (See page 226).

Moved and duly seconded that the report be accepted as printed.

Dr. Van Cott: The matter involved in this report is a simple one. All that is really debatable is whether the committee should go before the Legislature. It seems to the committee that the time has arrived when the Society should take an important stand and insist that some of the public funds, at least, be devoted to the interests of the medical men of this State. The report is clear and simple. There is nothing to add to it. The only thing your Chairman can do would be to read the whole report, if necessary. We have felt very strongly about this matter, and we feel now would be the psychological moment to adopt such a report, and to appoint a joint committee, consisting of the Committee on Legislation and the Committee on Public Health to formulate a definite report to go before the Council of this Society. It is the great hope of the committee that this will prevail.

Dr. Harris: In view of what has been said by Dr. Van Cott, if that is contained in the printed report, I move the report be adopted as printed.

The President: There might be a question whether this report, committing the Society to legislation, ought not to come back to the Society.

Dr. Harris: The report recommends that the Committee on Public Health and the Committee on Legislation confer and prepare such measures and report to the Council of this Society, and they will act in the name of the Society, and my motion is that the report be adopted as printed with the recommendations contained therein.

Motion seconded and carried.

The President: The next is the report of the Committee of Arrangements. As there are no recommendations in this report, if there is no objection, it will stand approved (See page 232).

No objections being offered, it was moved, seconded and carried that the report be accepted as printed.

Moved, seconded and carried, that the report of the Committee on Scientific Work be accepted as printed (See page 232).

The President: Report of the Committee to Con-

sider Question of Increasing Interest in the Society (See page 233).

Dr. Harris: This report has a great many recommendations in it, and I move to refer it to the Council for action. Seconded and carried.

The President: Next in order is the report of the Committee to Consider Resolution Regarding Nurses' Training Schools. If there is no discussion on it, it will stand approved as printed. On motion seconded and carried, the report was approved as printed (See page 234).

On motion seconded and carried, the report of the Committee on the Celebration of Dr. Jacobi's Eightieth Birthday was approved as printed (See page 237).

The President: Reports of the Councilors of the Various District Branches. If there is no discussion or objection, these reports will be approved as printed. On motion, seconded and carried, these reports were approved as printed (See page 237).

The Secretary read the report of the Board of Censors:

A meeting of the Board of Censors of the Medical Society of the State of New York was held at the offices of the Society, 17 West 43d Street, May 6, 1910, at 2 P. M.

There were present: Drs. Charles Jewett, G. P. Jessup, D. L. Kathan, A. MacFarlane, T. D. Mills, E. Munson, W. W. Skinner and Wisner R. Townsend.

The President of the Society, Dr. Charles Jewett presided and announced that a quorum was present.

He also announced that Dr. W. R. Townsend would be present but would not vote on the charges preferred against the Medical Society of the County of New York by reason of his being a member of that organization.

Mr. James Taylor Lewis, counsel of the State Society conducted the hearing upon the charges brought by Dr. F. R. Sturgis, of New York, against the Medical Society of the County of New York.

"I herewith accuse the Medical Society of the County of New York of certain acts, which in my opinion, render the said Medical Society an unfit and improper representative of the medical profession of the City and County of New York, and pray that the House of Delegates will appoint some other organization to represent the profession of the said County of New York in the Medical Society of the State of New York.

"I base this accusation upon the following charges:

"1 That the Medical Society of the County of New York during a portion of the years 1906 and 1907, to all intents and purposes accused a reputable member of said County Society, Dr. Charles James Mooney, of being concerned in and privy to an abortion, and failed to safeguard and protect the said Dr. Mooney's interests and professional reputation, as the County Society should have done.

"2. That in 1908 the said County Society, at the instigation and under the guidance of its Comitia Minora, did illegally secure the seating of two members of the Board of Censors of said Comitia and continued them in the year 1909 in their illegal possession of these positions. And

"3. That at the last annual election and subsequently thereto the said Society, through its Comitia Minora, did improperly and illegally appoint four delegates to the Medical Society of the State of New York.

(Signed) F. R. Sturgis."

The Medical Society of the County of New York was represented by Mr. Vandiver, its attorney, and Dr. Sturgis appeared personally for the complainant.

The following witnesses were examined by and on behalf of the complainant—Dr. Mooney and Dr. Bruyere.

Several exhibits were submitted in addition to the testimony of witnesses. The only witness called on behalf of the Medical Society of the County of New York was the Secretary, Dr. John Van Doren Young.

The Censors found that charges Nos. 1 and 2 should be dismissed for failure of proof. Charge 3 was sustained, but the Censors declined to recommend the dismissal of the County Society of New York as the representative of New York County in the State Society.

Resolved, That the Censors find from their investigation of these charges, that there is nothing in the evidence which can be constructed as derogatory of Dr. Mooney's character or professional reputation.

Moved, seconded and carried that the Report of the Censors be accepted.

The meeting was adjourned *sine die.*

Charles Jewett,
President.
Wisner R. Townsend,
Secretary.

The report of the Committee on Prize Essays was read by Dr. Jacobi, and announced that five essays had been presented, and that the essay bearing the motto "Cuilibet in arte sua perito est credendum" was awarded the Lucien Howe Prize. The President of the Society opened the envelope bearing the motto and found within the name of Dr. Homer E. Smith, of Norwich, and announced him the winner of the prize for 1911.

The President: What will you do with this report?

Moved by Dr. L. H. Neuman, seconded and carried, that the report be received, and printed.

The President: We will now listen to a report of the Committee on Contested Seats.

The Committee on Contested Seats respectfully reported that the protest of Dr. F. R. Sturgis, a member of the Medical Society of the County of New York, against the seating of Drs. L. F. Bishop, J. M. Hitzrot and Ralph Waldo claimed to have been elected as delegates to the House of Delegates of this Society, is well taken, and this Committee therefore suggests that they be not seated as delegates.

Respectfully submitted, Samuel B. Ward, Bernard Cohen, G. H. Witter. Moved, seconded and carried that the report be adopted.

The President: The next order is the report of the Committee on Experimental Medicine. We are fortunate in having with us this evening one who is exceptionally fitted to talk on this subject, and I will ask Dr. Flexner to say a few words (See page 205).

The President: The report of the Committee on Experimental Medicine is before you. In the last section of the report there is reference made to an appropriation, and that will come up in the regular order of business a little later with possibly a resolution. If there is no objection to this report, it will stand approved as printed. Hearing no objection, the report stands approved (See page 225).

The President: The next item for consideration is the report of the Committee on the Regulation of the Introduction of Medical Expert Testimony (See page 232).

Moved by Dr. E. LeFevre, seconded and carried, That the report be accepted and adopted as printed.

Secretary Townsend presented the following report from Dr. Eli H. Long, Buffalo, delegate to the Association of American Medical Colleges:

Appreciating the honor of appointment as delegate to the Association of American Medical Colleges, I present herewith a brief report of the recent meeting held in Chicago.

The Association of American Medical Colleges is a voluntary association of colleges for the evident purpose of fixing and maintaining standards of medical education and for mutual benefits to be derived from discussions of curriculum and methods of teaching. Heretofore it has been the body to prescribe the entrance requirements in medicine for the country at large, and six years ago it adopted a model curriculum which has aided greatly in the direction of securing uniformity of courses in the better medical schools.

The meeting this year marked a distinct advance in

co-operation with other agencies for the improvement of medical education. In the same week with this meeting occurred also the Conference on Medical Education and Legislation, and the sessions of the National Confederation of State Medical Examining and Licensing Boards. Co-operation was evident from the general attendance of the same delegates at the sessions of the several bodies, as well as in the discussions.

The important enactments of the Association of Colleges were the following:

1. Alteration of the Constitution whereby entrance credentials shall be issued by state authority, or be the equivalent of the standard college entrance. This will enforce the now generally accepted minimum of a standard four-year high school course. The addition of one year of college work is regarded as the ideal towards which our efforts should tend.

2. Alteration of the Constitution so as to abolish conditional matriculation of January first, 1912. After that date any person matriculating in medicine must present the official medical student certificate which represents completed entrance credentials.

3. The association adopted the following resolutions presented by its Committee on Medical Education:

WHEREAS, The time devoted to the study of pharmacology, materia medica and therapeutics is necessarily limited; and

WHEREAS, The thorough knowledge of a small but representative group of medicaments is conducive to scientific progress in therapeutics; therefore, be it

Resolved, That the Association of American Medical Colleges commends to the attention of medical educators and examiners the limited materia medica lists published by the joint committee of the Council on Medical Education and of the National Confederation of State Medical Examining and Licensing Boards, and the Chicago Medical Society.

Resolved, That the Association urge on the colleges and the examining boards the necessity for the recognition of the principle underlying these lists, and for the early adoption by the boards of a materia medica list to which licensure examinations shall largely be confined.

Another important resolution was the following, presented by the Committee on Pedagogics:

Resolved, That the Judicial Council be instructed to report at the annual meeting in 1912 as to the proper standard to be established for medical colleges in various sections in the country, and that the Judicial Council be instructed to confer with the Council on Medical Education of the American Medical Association and with the Carnegie Foundation for the Advancement of Teaching in the hope that these three bodies may agree on a minimum standard that may be applied practically at the same time.

The addresses were of the usual high order. The President treated live topics in a practical way, advocating co-operation with other bodies. The other addresses embraced the topics of entrance requirements, the fifth year in medicine, the medical library, and the teaching of anatomy and physiology from the standpoints of surgeon and internist.

Hereafter, the date of the annual meeting is to be set by the officers and the Judicial Council.

It was moved, seconded and carried that the report be accepted and the delegates discharged.

The President: We will now take up the amendments to the Constitution and By-Laws which were presented at the last meeting and which come up for action at this session.

The Secretary then read the following:

Amend Article II of the Constitution by adding a Section 4, as follows:

"Section 4. There shall be two forms of membership, namely, active and associate. Active members shall pay dues, as provided in the By-Laws, and be entitled to all the rights of property and every other privilege of the society. Associate members shall pay no dues and shall be entitled to no rights of property and receive none of the privileges of the society. Any active member may be admitted to associate membership for any reason which may be considered sufficient by a Board of Censors of a county society, upon a majority vote of the active members present at any county society meeting."

Moved and seconded that this amendment be adopted.

Dr. LeFevre: I think this amendment to the Constitution and By-Laws is one of the most radical that can possibly be introduced, in that it interferes with the entire structure of membership in the state organization. After many years of consideration and taking in all of the facts that have been gathered for years, our Constitution and By-Laws provide for membership that is definite in which the county members become also members of the state society. If we accept this amendment we entirely undo the work that has been done by those who have labored so long and so earnestly to establish our present form of organization. If this amendment should pass we would revert to a method that was in years past found to be faulty in the extreme, and I hope this will be lost by an overwhelming vote.

Dr. Van Cott: I move that this amendment be laid on the table.

Dr. Harris, New York: We should deal with this question fairly and not lay it on the table.

Dr. Van Cott: I withdraw my motion to lay the amendment on the table.

The President put the motion to adopt the amendment, and declared it lost, the vote being unanimous.

The Secretary read the following:

"Amend Chapter VIII, Section 1 of the By-Laws, to read as follows:

"The following shall be the standing and annual committees of this Society: The standing committees shall be one on legislation and one on public health. The annual committees shall be one on scientific work and one on arrangements. The standing committees shall be elected by the House of Delegates; the annual committees shall be appointed by the President.

"The remaining portion of this section to remain as at present. That Section 2 become Section 4, Section 3 become Section 2, and Section 4 become Section 3."

Moved and seconded that this amendment be adopted.

After the amendment had been discussed by Drs. E. Le Fevre, J. O. Roe, L. H. Neuman, and D. S. Dougherty, the President put the motion to adopt it, and declared it lost.

The Secretary read the following amendment:

Amend Chapter VIII of the By-Laws so as to transfer Madison County from the sixth to the fifth district branch.

Moved, seconded and carried that this amendment be adopted.

Dr. Harris offered the usual motion, which was seconded, that at the next annual meeting he would move to change the time and place of meeting according to Article VI, Section 1, of the Constitution.

The Secretary stated that he had received a letter from the Mayor of Rochester, and one from the Chairman of the Chamber of Commerce, in addition to an invitation from the Medical Society of the County of Monroe, inviting the Society to hold its next annual meeting at Rochester.

Dr. Dougherty moved that the next annual meeting take place on the third Tuesday in April, 1912. Seconded.

Dr. C. Bernstein moved as an amendment that we vote for Rochester, instead of Albany, as the next place of meeting. Seconded.

There were 46 votes cast in favor of the amendment, and 39 against it.

The President ruled that no decision had been reached, as the Constitution required a two-thirds vote on a motion to change the place of meeting.

In the meantime, New York was suggested in place of Rochester, but was subsequently withdrawn.

It was then moved and seconded that the Society

meet in Albany on the third Tuesday in April, 1912. Carried.

Dr. Carr, of New York, offered the following resolutions:

Resolved, That the members of the House of Delegates of the Medical Society of the State of New York in session assembled, do hereby declare that animal experimentation in this state is conducted in a proper and merciful manner, and that such experimentation is positively essential to medical progress; that unmerciful experimentation is not practiced in this state, and is prohibited by law.

Resolved, That Senate Bill No. 310, calling for investigation of vivisection in this state, is therefore unnecessary and mischievous and calculated to hinder and interfere with vivisection, and correspondingly lessen the humane benefits derived therefrom.

Resolved, That we respectfully petition the legislature to express decided disapproval of all measures coming before it opposed to animal experimentation for the purpose of medical advancement; also all measures calculated to hinder or destroy the same.

It was moved and seconded that these resolutions be received and adopted. Carried

The Secretary read the following communication from the Secretary of the Board of Trustees of the American Medical Association to the secretary of the Medical Society of the State of New York:

AMERICAN MEDICAL ASSOCIATION.

Board of Trustees.
OFFICE OF THE SECRETARY.
125 W. 58th Street, New York, N. Y.,
March 13, 1911.

Dr. Wisner R. Townsend,
Secretary of Medical Society, State of New York.

Dear Doctor:

At a meeting of the House of Delegates of the American Medical Association held in St. Louis, Wednesday, June 8th, 1910, the following resolution was presented by Dr. Hubert Work of Colorado:

Whereas, The plan of organization of the profession carried to its logical conclusion means that every member of a county society should be ipso facto a member of the American Medical Association, just as every member of a county society is ipso facto a member of a state society, and as it is the ultimate end of the plan that the American Medical Association should be coextensive with the organized profession throughout the land, and as nearly, if not quite, every state already has adopted the plan so far as making every member of a county society a member of a state society, therefore, be it

Resolved, That the President appoint a committee to draw up details for extending the plan to the American Medical Association, and to present this plan to the various state societies for their consideration during the coming year, and to make a report at the next annual meeting of the House.

Dr. Alexander Lambert, of New York, moved as an amendment that the resolution be referred to the Board of Trustees because it means a separation of The Journal from the membership in a manner which involves the finances of the Association.

The amendment was seconded, accepted, and the original motion, as amended, was carried.

The Trustees have given this matter full consideration, and at a meeting held in Chicago on Feb. 3rd, 1911, the following resolution was passed:

Resolved, that the Board of Trustees refer to the various state societies the question of the desirability of extending the plan of organization as represented in the foregoing resolution, and request that the various state societies take action on this matter and report to the Board.

In accordance with this last resolution I beg herewith to transmit the matter to your Society for consideration, and request that your report be sent to the Board of Trustees, American Medical Association, 535 Dearborn Ave., Chicago, Ill.

Very truly yours,
Wisner R. Townsend,
Secretary.

The President: This question is submitted to this Society for action.

Dr. E. LeFevre: As this request of the Board of Trustees of the American Medical Association has a very important bearing on the relation of the state to the national association, which I think should be well considered before any definite action is taken, I therefore desire to offer the following:

Whereas, The Board of Trustees of the American Medical Association has requested an expression of opinion upon the subject of making in the future all members of state societies and county societies in affiliation with them *ipso facto* members of the American Medical Association, and in order that the board may make a satisfactory report to the House of Delegates of the national organization relating thereto, be it

Resolved, That the foregoing request of the Board of Trustees of the American Medical Association be referred to a committee of five to be appointed by the President of this Society, for investigation as to the legality, expediency, and advisability of the proposition and to report to this House of Delegates at the next annual meeting.

On motion, duly seconded, the resolution was adopted.

Dr. D. S. Dougherty, of New York, offered the following preambles and resolutions:

Whereas, There is now in the legislature of the State of New York a bill known as Assembly Bill No. 611, Inc. 583, entitled "An Act to Amend the Public Health Law in Relation to the Vaccination of School Children;" and

Whereas, This bill is designed to allow unvaccinated children to attend school on presentation of physicians' certificate that such pupil's or person's physical condition is such that vaccination will jeopardize his or her health, or upon a written declaration from the parents or guardians of such pupils or persons to the effect that such parents or guardians are conscientiously opposed to vaccination; and

Whereas, The results of vaccination have been such as to reduce the mortality of smallpox to a minimum and to make that one most dreaded of scourges barely known in civilized communities; and

Whereas, Conscientious scruples against vaccination are really only the expression of ignorance and prejudice which, in this age of enlightenment, should receive no endorsement from known and accepted scientific facts; therefore, be it

Resolved, That the Medical Society of the State of New York protests against the passage of this act as inimical to the best interests of the state and respectfully urges the legislature to withhold its approval of the measure, and be it further

Resolved, That copies of these preambles and resolutions be forwarded to each member of the legislature.

The President: Under the rules, these resolutions will be referred to the Committee on Legislation.

Moved and seconded that the resolutions be adopted, and then referred to the Legislative Committee. Carried.

Dr. B. Cohen, delegate from the Medical Society of the County of Erie, presented the following resolutions:

Resolved, That the Board of Regents of the University of the State of New York be requested to recommend such change in the medical practice act as would raise the requirements for securing the medical student's certificate to include, in addition to the standard high school course, one year in college, or its equivalent, embracing especially the following subjects: physics, chemistry (inorganic and qualitative analysis), and general biology.

Resolved, That the State Society recommends to the Board of Regents that an investigation be conducted in order to ascertain the number of internships available in the hospitals of the state with a view to recommending a fifth year in hospital for the completion of the medical curriculum.

(Signed) ELI H. LONG.
F. C. BUSCH.

In order to consider these resolutions and to carry out the suggestions therein contained, it was moved and seconded that a committee be appointed to act in conjunction with the Legislative Committee to carry out the suggestions. Carried.

Moved, seconded and carried, that these resolutions be referred to the Committee on President's address, consisting of Drs. Hicks, Thornton and Crandall.

Dr. S. B. Ward offered the following:

To the Members of the Legislature of the State of New York:

The members of the Medical Society of the State of New York feel keenly the loss of their most valued ally in the destruction by fire of the medical library branch of the state library. Many of the members are deprived of purchasing the rare volumes on medicine and surgery which the library was empowered to loan for short periods, and hence many communities have similarly been bereft of the latest medical knowledge, imparted through their physician, by means of these books and medical journals. To replace the books and journals so far as possible, and to organize once more this important part of the state library, we earnestly seek the aid of the legislature through a generous appropriation to accomplish this object.

Moved, seconded and carried, That this resolution be adopted and the Secretary and President empowered to sign a communication and transmit it to the proper person.

Dr. Bernard Cohen, of Buffalo, offered the following preamble and resolution:

WHEREAS, In the larger cities in the State of New York nearly half of the births are attended by midwives, many of whom are wholly untrained for the responsible work which they assume, be it

Resolved, That the Medical Society of the County of Erie favor the adoption of an educational standard similar in character to that which is now provided for trained nurses, and that it recommends that the state medical society take such action as may lead to the establishment of a standard, the requirement of adequate examinations, with universal registration of all midwives practicing in this state.

On motion of Dr. E. Eliot Harris, duly seconded and carried, the resolution was referred to the Council.

The Secretary presented four communications from Drs. W. B. Reid, G. C. Reid, J. O. Stranahan and J. E. Groff, which were identical, except for the signatures, concerning charges preferred against them, and an appeal from the decision of the Medical Society of the County of Oneida in expelling them from membership.

On motion, duly seconded and carried, these communications were referred to the Board of Censors.

The Secretary read the following notice from Dr. Rudolph Matas, New Orleans:

Members of this Society, and others who may have had personal experience in the operative treatment of aneurism by the intra-saccular method of suture (endoanéurismorhaphy, also known as the Matas operation) will confer a favor by notifying the Secretary, or by communicating their experience directly to Dr. Rudolph Matas, New Orleans.

Dr. B. R. Wakeman offered the following amendment which was duly seconded by Dr. H. B. Smith:

To amend Chapter VIII, Section 1, of the By-Laws, taking Steuben County from the seventh district branch and placing it in the sixth district branch. The Chair stated that under the By-Laws this amendment would have to lie over until the next meeting.

The President: I will appoint as a Committee of Five called for in the resolution offered by Dr. LeFevre the following: Drs. E. LeFevre, New York; S. B. Ward, Albany; W. W. Skinner, Geneva; J. C. MacEvitt, Brooklyn, and Wisner R. Townsend, New York.

Dr. J. Richard Kevin, of Brooklyn, offered the following:

WHEREAS, In the proposed new charter under the head of Department of Public Hospitals, there is provision made for the appointment of a commissioner of hospitals, who shall have charge and control of all public hospitals, as specified in the section; and

WHEREAS, The conception of successful hospital management presupposes the specialized knowledge only possessed by physicians, therefore, be it

Resolved, That we, the Medical Society of the State of New York, believe it would be for the best interest of all to have the proposed commissioner of hospitals a physician, therefore, be it

Resolved, That a copy of this resolution be forwarded to the mayor, of New York City, and to the Legislative Committee.

Dr. Harris moved that the resolution be referred to the Committee on Legislation.

Motion seconded by Dr. D. S. Dougherty, and carried.

Dr. H. W. Wootton, New York City, introduced the following preambles and resolutions:

WHEREAS, A law is now in the statute books creating a special class of practitioners known as optometrists; and

WHEREAS, This law gives to certain persons the right to adjust lenses to eyes with defects of vision, and prohibits the use of drugs in determining the need for and the kind of lenses to be prescribed, and

WHEREAS, It is the opinion of the medical profession that a knowledge of the subjects taught in medical schools is absolutely essential for the proper and safe performance of the work this law gives opticians the legal right to do, and

WHEREAS, The entrusting of work so important to the hands of a class of people inadequately equipped, and who are denied the right to use the means necessary to do properly the work they are authorized to do, is a positive menace to the community, therefore, be it

Resolved, That it is the judgment of the Medical Society of the State of New York that the Legislature made a serious mistake in enacting this law.

Resolved, That in the judgment of the Medical Society of the State of New York the legislature should be respectfully petitioned to repeal this iniquitous law. Be it further

Resolved, That in the judgment of the Medical Society of the State of New York, Columbia University of the City of New York has taken a decided step backwards in establishing a course in optometry in its extension teaching, advertising the same as an opportunity for men and women with only two years of high school training to enter a "new profession."

Resolved, That Columbia University by creating this department and granting certifications of proficiency to students who fulfill its requirements, not only discredits its own medical department, but discriminates against its medical graduates of whom is required a preliminary training far in excess of that required of the optometrist, which discrimination is especially intensified by the fact that the medical graduates who take up the practice of ophthalmology come in direct competition with the graduates in optometry.

Resolved, That Columbia University by establishing this course in optometry has given support to a horde of incompetents who are constantly endeavoring to tear down the barrier created by the state for the protection of the public health, as is attested by the fact that the action of Columbia University in this particular is being advertised all over the United States by opticians seeking identical privileges elsewhere.

Resolved, That in view of the foregoing statements, the Medical Society of the State of New York respect-

fully urges Columbia University in the City of New York to abolish its course in optometry.

Dr. John E. Weeks, New York City, moved that the preambles and resolutions be adopted and referred to the Council with power to carry out the recommendations.

Seconded and carried.

The resignation of Dr. W. E. Ford as Alternate Delegate to the American Medical Association was accepted.

On motion, the House of Delegates then adjourned until 9 A. M., Tuesday, the first order of business at that meeting to be the election of officers.

Wisner R. Townsend,
Secretary.

ADJOURNED MEETING OF THE HOUSE OF DELEGATES.

The Adjourned Meeting of the House of Delegates was called to order at 9.10 A. M., Tuesday, April 18, 1911, Dr. Charles Stover, President, in the Chair. Dr. Wisner R. Townsend, Secretary.

Moved, seconded and carried, that the reading of the minutes of the previous meeting be dispensed with.

The nomination and the election of officers being in order, Dr. Harris moved that nomination speeches be limited to two minutes. Seconded and carried.

The following officers were nominated and duly elected:

President, Dr. Wendell C. Phillips, New York City; First Vice-President, Dr. Peter W. van Peyma, Buffalo; Second Vice-President, Dr. William F. Campbell, Brooklyn; Third Vice-President, Dr. C. R. Hervey, Oswego; Secretary, Dr. Wisner R. Townsend, New York City; Treasurer, Dr. Alexander Lambert, New York City.

Delegates to the American Medical Association: Drs. A. T. Bristow, Brooklyn; J. W. Fleming, Brooklyn; Wesley T. Mulligan, Rochester; Henry L. Elsner, Syracuse; Edgar A. Vander Veer, Albany; E. E. Cornwall, Brooklyn.

Alternate Delegates to the American Medical Association: Drs. S. W. S. Toms, Nyack; A. Walter Suiter, Herkimer; W. B. Hanbidge, Ogdensburg; J. C. MacEvitt, Brooklyn; W. W. Strang, New York City, and Otto Pfaff, Oneida.

Chairman of Committee on Scientific Work: Dr. L. H. Neuman, Albany; Chairman of Committee on Legislation, Dr. R. P. Bush, Horseheads; Chairman of Committee on Arrangements, Dr. William J. Nellis, Albany; Chairman of Committee on Public Health, Dr. J. M. Van Cott, Brooklyn.

The Delegates to the American Medical Association were elected by ballot; the President and chairmen of standing committees by a ballot cast by the Secretary at the instruction of the House, on motion duly seconded and carried, and certified by the tellers and announced by the President. The Chairman of the Committee on Legislation was elected by ballot, there being two nominees. The first ballot was 31 for Dr. Root and 31 for Dr. Bush. A second ballot was then ordered and announced by the tellers as 47 for Dr. Bush and 28 for Dr. Root.

The nominations for Delegates to the American Medical Association were as follows:

Drs. Bristow, Fleming, Mulligan, Elsner, Vander Veer, Cornwall, Toms, Pfaff and Hanbidge.

The nominations for Alternates were as follows:

Drs. Toms, Suiter, Hanbidge, MacEvitt, Strang, Pfaff, Bishop, Winfield, Flaherty, and two votes each were also cast for Drs. Sanders and Fisher.

The President: At the last session, the Committee on Expert Testimony were discharged after submitting their report, and through an oversight they were not reappointed. I think it would be advisable for some member to make a motion to have this committee continued.

It was moved and seconded that the same committee be continued. Carried.

Dr. Dougherty as Secretary of the Delegates of the Medical Society of the County of New York, under Article 4, Chapter 3 of their Constitution, presented the name of Dr. L. F. Bishop as Delegate in place of Dr. L. F. Bishop, who had been protested the night before by Dr. Sturgis, and whose seat had been declared vacant.

The name was called by the Secretary, and the President declared him entitled to sit as Delegate.

Dr. Alexander Lambert: Last night the House of Delegates accepted and ordered printed the report of the Committee on Prize Essays. I think, Mr. President, that we should re-consider the action taken on that report last night, but as I am not a Delegate I cannot make the motion.

Dr. Harris stated that last night he voted in the affirmative on the resolution to accept the report of the Committee on Prize Essays. He now moved and it was duly seconded and carried, that the action of the House of Delegates last night in receiving and ordering the report of the Committee on Prize Essays printed, be reconsidered.

Dr. Harris then moved and it was duly seconded and carried, that the report be referred to the Committee on Publication for editing.

Dr. Harris called attention to the fact that the Committee on President's address had not reported.

Dr. Crandall stated that the committee had not been able to hold a meeting.

There being no further business to come before the meeting, on motion, the House of Delegates then adjourned *sine die.*

Wisner R. Townsend,
Secretary.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Minutes of the One Hundred and Fifth Annual Meeting, held at Albany, April 18 and 19, 1911.

Scientific Meeting.

APRIL 18, 1911.—FIRST DAY—MORNING SESSION.

The Society met in the Common Council Chamber, City Hall, and was called to order at 11.10 A. M. by the President.

The Secretary read the minutes of the meeting of 1910, which were approved.

A list of delegates from other societies was read by the Secretary, as follows:

Connecticut: Henry Blodget, Bridgeport; W. H. Carmalt, New Haven.

Massachusetts: Elliott P. Joslin, Boston; Daniel R. Keefe, Springfield.

New Hampshire: Edgar O. Crossman, Lisbon; John M. Gile, Hanover.

Rhode Island: Oliver W. Best, Providence; R. V. Fenwick, Central Falls.

Dr. Joslin was present and was invited to a seat on the platform, but declined.

The First Vice-President, Dr. J. W. Grosvenor, Buffalo, took the chair, and President Charles Stover, of Amsterdam, delivered his address. He selected for his subject "Medical Teaching and State Boards of Medical Examiners" (See page 207).

On motion, a vote of thanks was extended to President Stover for his interesting address, and the address ordered published in the proceedings.

Dr. A. Sturmdorf, of New York City, read a paper entitled "Studies on a Local Hematological Factor in the Causation of Uterine Hemorrhage."

Dr. LeRoy Broun, of New York City, followed with a paper entitled "Operation for Adherent Retrodisplaced Uteri by Shortening the Round Ligaments Through the Inguinal Canal After Abdominal Section Through the Transverse Incision." Discussed by Dr. H. P. Jack, and in closing by the essayist.

Dr. Edwin Beer, of New York City, read a paper entitled "The Treatment of Bladder Tumors With the High Frequency Current of Oudin." This paper was

discussed by Drs. Broun, Pedersen, Gaertner, Willy Meyer, and in closing by the author of the paper.

Dr. James T. Pilcher, of Brooklyn, read a paper on "Diagnosis and Surgical Indications of Duodenal Ulcer." Discussed by Drs. Alexander Lambert, E. P. Joslin, Nathan Jacobson, A. E. Chace, A. MacFarlane, I. Adler, and in closing by the author of the paper.

On motion, the Society adjourned until 2 P. M.

FIRST DAY—AFTERNOON SESSION.

The Society reassembled at 2 P. M., and was called to order by the President.

Dr. Willy Meyer, of New York City, read a paper entitled "The New Thoracic Department of the German Hospital of New York City."

Dr. Harry G. Watson, of New York City, read a paper on "Taking the Cure at Carlsbad." Discussed by Dr. L. F. Bishop.

Dr. John F. W. Whitbeck, of Rochester, read a paper entitled "The Bladder and the Prostate."

SYMPOSIUM ON SALVARSAN.

Arranged by Dr. James M. Winfield.

Dr. S. J. Meltzer, of New York City, read a paper entitled "The Significance of Salvarsan and Its Place in Therapeutics."

Dr. S. Pollitzer, of New York City, read a paper on "The Indications for Salvarsan in Syphilis."

Dr. John Fordyce, of New York City, read a paper entitled "Analysis of the Clinical Serological Results Obtained in the Treatment of 175 Cases of Syphilis With Salvarsan."

Dr. Howard Fox, of New York City, followed with a paper entitled "The Action of Salvarsan on the Wasserman Reaction."

Dr. H. F. Swift, of New York City, read a paper on "Technic and Methods of Administration of Salvarsan."

Dr. William S. Gottheil, of New York City, read a paper entitled "A Few Plain Truths About Salvarsan."

Dr. James Winfield, of Brooklyn, read a paper on "The By-Effects of Salvarsan."

The symposium was discussed by Drs. George H. Fox, B. Lapowski, V. C. Pedersen, J. M. Swan, and Edward D. Fisher.

Dr. Edward D. Fisher, of New York City, then read a paper entitled "The Relation of Tabes to General Paresis; Are They the Same Disease, Differing Only in the Situation of the Lesion?"

Discussed by Drs. Edward B. Angell, and W. H. Kidder.

Dr. Nathan Jacobson, of Syracuse, read a paper entitled "Paralysis of the Upper Extremity Due to Nerve Injury."

On motion of Dr. Bernard Cohen, the Society adjourned until 8 P. M.

FIRST DAY—EVENING SESSION.

The Association reassembled at 8.30 P. M., and was called to order by the President.

Dr. Edward B. Angell, of Rochester, read a paper entitled "The Nervous Woman." Discussed by Drs. Rosalie Slaughter Morton, Dr. Frank D. Reese, and in closing by the author of the paper.

Col. John Van R. Hoff, Medical Corps, Fort Jay, New York, read a paper entitled "Vaccination in the Army."

Dr. Walter B. James, of New York City, read a paper entitled "The Clinical Observations of Cardiac Arrythmias From the Modern Standpoint." Discussed by Drs. L. F. Bishop, L. H. Neuman, and in closing by the essayist.

Dr. S. M. Shook, Passed Assistant Surgeon, United States Navy, read a paper entitled "Diagnosis of Some Common Tropical Infections."

Dr. Fred H. Albee, New York City, read a paper entitled "Fractures of the Tarsal Bones With Radiograms."

Dr. L. G. Cole, of New York City, read a paper entitled "Radiographic Diagnosis of Lesions of the Gastrointestinal Tract With Lantern Slide Demonstration and Cinematographic Demonstration of the Peristalsis in Normal and Pathological Cases."

On motion, the Society adjourned until 9 A. M., Wednesday.

APRIL 19, 1911.—SECOND DAY—MORNING SESSION.

The Association met at 9 A. M. and was called to order by the President.

Dr. L. F. Bishop, of New York City, read a paper entitled "The Arteriosclerosis or the Cardiovascular Disease."

Discussed by Drs. D. Ayers, Edward B. Angell, J. M. Swan, H. Shoonmaker, Frank D. Reese, and in closing by Dr. Bishop.

Dr. J. F. Rooney, of Albany, read a paper entitled "The Significance and Therapy of High Blood Pressure."

Dr. J. M. Swan, of Watkins Glen, read a paper entitled "The Hydrotherapeutic Treatment of Chronic Disease of the Heart."

Discussed by Drs. L. F. Bishop, and H. Shoonmaker.

Dr. Clarence B. Hyde, of Brooklyn, read a paper on "Olive Oil in Post-Operative Nausea."

Dr. Edgar R. McGuire, of Buffalo, read a paper on "Cerebral Compression."

Dr. Martin Tinker, of Ithaca, read a paper entitled "One Hundred and Seventeen Consecutive Operations for Exophthalmic Goiter Without Fatality."

Discussed by Drs. Rosalie Slaughter Morton, W. W. Skinner, Parker Syms, A. E. Chace, G. E. Beilby, Charles Hacker, and in closing by the essayist.

Dr. William F. Campbell, of Brooklyn, read a paper entitled "Developmental Defects of the Abdominal Viscera With Their Surgical Significance."

Dr. J. M. Van Cott, of Brooklyn, read a paper entitled "Deductions From Clinical Experience in the Use of Polyvalent Bacterial Vaccine."

Discussed by Dr. C. O. Boswell.

On motion, the Society adjourned until 2 P. M.

SECOND DAY—AFTERNOON SESSION.

The Society reassembled at 2.25 P. M., and was called to order by the President.

Dr. William A. Howe, of Phelps, read a paper entitled "Mutual Helpfulness in the Conservation of Public Health." Discussed by Drs. Tompkins, Curtis, Overton, Morton, and in closing by Dr. Howe.

Dr. Henry Adsit, of Buffalo, read a paper entitled "Malignant Tumors of the Kidney."

Dr. Albert Warren Ferris, of New York City, read a paper entitled "The Role of the Physician in the Prevention of Insanity."

Discussed by Dr. W. H. Kidder.

Dr. A. H. Garvin, of Ray Brook, read a paper entitled "Auscultation of the Cough and Its Importance in Tuberculosis."

Dr. Paul M. Pilcher, of Brooklyn, read a paper on "The Diagnosis of Diseases of the Kidney."

Discussed by Drs. Nathan Jacobson, Martin Tinker, and in closing by the essayist.

Dr. H. C. Gordinier, of Troy, read a paper on "Exophthalmos, a Common Sympton of Bright's Disease."

Discussed by Dr. L. F. Bishop.

Dr. Parker Syms, of New York City, read a paper entitled "The Precancerous Stage."

Discussed by Dr. James B. Tuttle, and in closing by the essayist.

Dr. Harvey R. Gaylord, of Buffalo, read a paper entitled "Cancer Immunity in Its Present Status."

Discussed by Dr. Willis E. Ford, and in closing by the essayist.

Dr. Samuel G. Gant, of New York City, read a paper entitled "Treatment of Intestinal Tuberculosis."

Discussed by Drs. James P. Tuttle, Martin Tinker, and in closing by the essayist.

Dr. Edgar A. Vander Veer, of Albany, read a paper entitled "Gunshot Wound of the Abdomen."

Dr. E. MacD. Stanton, of Schenectady, read a paper on "Chronic Appendicitis; A Critical Study of Post-Operative End Results."

Dr. A. L. Soresi, of New York City, gave a demonstration of a new method of end-to-end anastomosis.

At the conclusion of the reading of papers, the First Vice-President, Dr. Grosvenor, said: "You are doubtless all acquainted with the fact that we are under obligations to our retiring President, Dr. Stover, for the excellent program that has been provided for this meeting, and I think it is proper that we should tender him a vote of thanks for the able and efficient manner in which he has conducted his administration, and all those in favor of such a vote will please say 'Aye,' contrary-minded, 'No.'" Carried unanimously.

The retiring President, Dr. Stover, said: "You have given me too much credit. It is highly creditable to the organization and the application of its working principle, that, in spite of the unfortunate passing away of the President elected at the last meeting, the program has been carried out as it is; but the organization was so well perfected, the committees appointed were so good, and the members of the committees have done their work so well, that really credit is due them and not to me, and if you will give as hearty support to Dr. Phillips during the coming year as you have to me, it will be to the advantage of the Society and to that of Dr. Phillips. I thank you for this vote of thanks.

There being no further business to come before the Society, on motion the meeting adjourned *sine die.*

Wisner R. Townsend,
Secretary.

Meeting of the Council.

A regular meeting of the Council of the Medical Society of the State of New York was held in the Witness Room, Court of Sessions, City Hall, Albany, on April 19, 1911, at 5 P. M. Dr. Wendell C. Phillips, President, in the chair. Dr. Wisner R. Townsend, Secretary.

Present: Drs. Wendell C. Phillips, R. P. Bush, A. A. Gillette, T. H. McKee, Wesley T. Mulligan, William J. Nellis, Leo H. Neuman, Frank Overton, Wisner R. Townsend and J. M. Van Cott.

The President, Dr. Phillips, announced that the position of Third Vice-President was vacant, owing to the fact that at the time of the election Dr. C. R. Hervey was not a member of the State Society, as he had been dropped from membership for non-payment of dues by the Medical Society of the County of Oswego on December 31, 1910.

Moved by Dr. Gillette, seconded by Dr. Van Cott, and carried, that Dr. G. D. Gregor, of Watertown, be appointed Third Vice-President to fill the vacancy.

The President then declared Dr. Gregor the Third Vice-President for the ensuing year.

The following letter from Dr. Rosalie Slaughter Morton was read:

"Mr. President and Members of the Council:

I wish to present the following:

Whereas, The education of the public regarding the causes and prevention of disease is an important factor in promoting public health, and

Whereas, Lectures have been given under many of the County Societies which compose the Medical Society of the State of New York regarding the importance of early diagnosis of cancer; the importance of early removal of adenoids and other subjects in which the education of the public is of great value, and

Whereas, There is need of more general education of the laity throughout the state, and

Whereas, It is of great importance to discriminate sound views regarding the practice of medicine and surgery, therefore be it

Resolved, That the President of this Society be empowered to appoint a Public Health Education Committee which shall be a sub-committee of the present standing Committee on Public Health, and which shall promote public health education work throughout the county medical societies of this state.

And, Mr. President, I move the adoption of this resolution.

(Signed) Rosalie Slaughter Morton,
Delegate."

It was moved, seconded and carried, that the same be referred to the Committee on Public Health.

Moved, seconded and carried, that the appointment of the Committee on Publication be deferred until the meeting of the Council in May.

Moved, seconded and carried, that officers, members of committees and delegates of the Medical Society of the State of New York may have their railroad fares paid to and from all meetings when traveling on business of the Society.

Moved, seconded and carried, that a committee of three be appointed, of which the Secretary of the Society shall be the Chairman, to pass on such amendments or alterations as may be submitted by the County Societies to their Constitution and By-Laws.

The President appointed Drs. J. M. Van Cott, Wesley T. Mulligan and Wisner R. Townsend.

Moved, seconded and carried, that a Committee on Finance be appointed, to consist of three members.

The President appointed Drs. William Francis Campbell, Alexander Lambert and T. H. McKee.

Moved, seconded and carried, that the duties of the Finance Committee be to authorize such expenditures as they consider advisable, and that the officers and chairmen of committees incur no expense on behalf of the Society, except railroad fares, without the approval of said committee.

Moved, seconded and carried, that the following resolution be adopted:

Resolved, That on and after July 1, 1911, no member of the Medical Society of the State of New York shall receive the Directory, the New York State Journal of Medicine, nor be entitled to malpractice defense until his County and State assessment has been paid.

Resolved, That in order to encourage increase in membership for the year 1911, all members who are elected between October 1, 1911, and December 31, 1911, and who shall pay during that period their State assessment, may have the same credited to 1912, provided that they request it. All whose assessments are so credited shall be entitled to malpractice defense for 1911, but shall not be entitled to receive the Directory or the Journal for 1911. State assessments so credited shall be immediately forwarded by the County Treasurers to the State Treasurer.

Moved, seconded and carried, that the chairmen of standing committees appoint the other members of their committees subject to the approval of the Council at the May meeting.

Moved, seconded and carried, that the resolution passed by the House of Delegates, in regard to optometry, be referred to the Committee on Legislation and the attorney.

The President outlined a plan for making the next meeting more interesting by having sections established and a more extensive program to cover a meeting of three days, and the chairman of the Committee on Arrangements was requested at next meeting to report on location of other halls and expense, etc.

There being no further business the meeting adjourned at 6 P. M.

Wisner R. Townsend,
Secretary.

Meeting of the Censors.

A meeting of the Censors of the Medical Society of the State of New York was held in the Witness Room of the Court of Sessions, City Hall, Albany, on April 19, 1911, at 6 P. M. Dr. Wendell C. Phillips, President, in the chair; Dr. Wisner R. Townsend, Secretary.

Present: Drs. Wendell C. Phillips, A. A. Gillette,

Thomas H. McKee, Wesley T. Mulligan, Frank Overton and Wisner R. Townsend.

It was moved, seconded and carried, that the President and Secretary of the Society, and Mr. James Taylor Lewis, Counsel, be appointed a committee to formulate a form of procedure for the Censors, to consider the appeal of Drs. W. B. Reid, G. C. Reid, J. O. Stranahan and J. E. Groff, against the decision of the Medical Society of the County of Oneida in expelling them from membership.

There being no further business, the meeting then adjourned.

WISNER R. TOWNSEND,
Secretary.

LEGISLATIVE NOTES.

SUPREME COURT—APPELLATE DIVISION.

FIRST DEPARTMENT, MARCH, 1911.

GEORGE L. INGRAHAM, *P. J.*,
CHESTER B. MCLAUGHLIN,
FRANCIS M. SCOTT,
NATHAN L. MILLER,
VICTOR J. DOWLING, *JJ.*

LOUIS ANTON EWALD, Respondent, vs. THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK, *et al.*, Appellants.	No. 1485.

Appeal from an order of Special Term continuing an injunction restraining defendants pendente lite from trying the plaintiff on charges.

Almuth C. Vandiver, for appellant.

Daniel P. Hays, for respondent.

MILLER, *J.*:

The plaintiff became a member of the defendant Medical Society in January, 1904. On March 10, 1910, charges were preferred against him by a number of physicians to the effect that in a scientific article, contributed by him to be published by a hospital of whose staff he was a member, he had described certain operations as having been performed by him, which in fact he had never performed. He was tried and found guilty by the defendant's Board of Censors and was suspended from membership until June 1, 1911. On September 30, 1910, written charges were filed with the President of the defendant society by one of its members to the effect that during the pendency of the first charges the plaintiff and another physician had changed the records of the Sydenham Hospital for the purpose of substantiating the statements made by plaintiff in the said article, which acts, it was claimed, unfavorably affected the dignity, character and interest of the medical profession, of the defendant society and of its members. A copy of said charges were not then served upon the plaintiff as he was then under suspension. His associate, however, was tried on them and he was present and testified at the trial and heard the charges read. The plaintiff's said associate was found guilty and his expulsion recommended by the Censors on December 12, 1910, and on that day a resolution of the society was adopted restoring the plaintiff to membership in good standing on and after that date. On December 14, 1910, the plaintiff tendered his resignation, which was not accepted, and on December 17, 1910, he was served with a notice of said charges and that a meeting would be held on December 30th, following, for the purpose of considering them. Whereupon this action was brought.

If the plaintiff is still a member of the Society this action is premature (See Moyse vs. N. Y. Cotton Exchange, and cases cited by Mr. Justice Scott, decided by this court in this department, March 10, 1911, not yet reported). It may well be doubted whether equity will entertain jurisdiction at the suit of a non-member to restrain the proceedings of a membership corporation, like the defendant society. The plaintiff may ignore the proceeding, and, if he is libelled, sue for damages (See Fawcett vs. Charles, 13 Wend. 473). However, assuming without deciding that upon the plaintiff's theory the case is one for equitable cognizance, we are of the opinion that the injunction should have been denied for the reason that the defendants have jurisdiction to try the plaintiff on the charges preferred.

In his application for membership the plaintiff expressly agreed, "if elected, to comply with all rules, regulations and by-laws passed by Society, or adopted for its government." Among the pertinent provisions of the defendant's by-laws the following may be noted:

"All resignations shall be in writing and shall be sent to the Secretary and referred to the Comitia Minora at its first meeting after their receipt. If accepted, the member thereby severs all connection with The Medical Society of the County of New York, the First District Branch, and the Medical Society of the State of New York, and relinquishes all right and title to any share in their property. No resignation shall be accepted from a member owing dues or assessments or under charges" (Chap. 1, Art. 6.) "The Censors shall take cognizance of all charges preferred against a member. Charges against a member shall be presented to the President in writing, and by him referred to the Censors, who shall meet, examine the same, and the evidence thereon" (Chap. 5, Art. 4.) "There shall be three degrees of discipline: censure, suspension, and expulsion" (Chap. 5, Art. 6.) "The Constitution, By-Laws, and resolutions of the Society, and the Constitution, By-Laws, rules and regulations of The Medical Society of the State of New York, which have reference to county societies, shall be binding on the membership of this Society; and any intentional violation or disregard of the same shall be cause for discipline. The commission of any act which unfavorably affects the character, dignity or interests of the medical profession, of this Society, or any one or more of its members, shall also be cause for discipline" (Chap. 5, Art. 10.) When the plaintiff became a member of the defendant society, its by-laws provided for amendment, alteration or addition thereto by a majority vote of its members at annual meetings. The plaintiff does not question the regularity of the adoption of the present by-laws or deny that he is bound by them, provided the defendant had the power to adopt them. His contention, in brief, is that the Society has no power to retain a member for the sole purpose of trying him on charges and expelling him, that any by-law purporting to give it that power is beyond the chartered powers of the corporation and therefore not binding upon its members, that he was not "under charges" within the meaning of said Chap. 1, Art. 6, when he filed his resignation, wherefore it took effect at once without formal acceptance, that the defendants have no power to try the plaintiff on the charges preferred and that in any event the restoration of the plaintiff to membership in good standing was a waiver of pending charges and a bar to further proceedings thereon.

If the by-laws were silent on the subject the filing of a resignation by a member would doubtless terminate his membership and it is probably true, as contended by the plaintiff, that the by-law in question limits the power of the Comitia Minora to refuse the acceptance of a resignation to the specified grounds. Still the by-law contemplates that an acceptance of a resignation is necessary to terminate a membership and it is undisputed that the Comitia Minora had no meeting after the filing of the plaintiff's resignation and before notice of the charges was served upon him. Moreover, we are of the opinion, that he was "under charges" when he filed his resignation, and from the time that written charges were filed with the President. The mere fact that the Censors had not yet served a copy of the charges on the plaintiff is immaterial (See People *ex*

rel. Eakins vs. Roosevelt, 12 Misc., 622; 14 Misc. 531; 149 N. Y., 574). The by-law in question was evidently adopted to prevent a member, against whom charges had been preferred, from evading the consequences of his offense by resigning in advance of a trial.

The learned Justice at Special Term was of the opinion that the original act of incorporation (Chap. 138, Laws 1806) did not confer power on the defendant to pass the said by-law, and that within the principle of Trustees of Dartmouth College vs. Woodward (4 Wheat. 518) the subsequent acts of the Legislature relating to Medical Societies, even though accepted by the defendant Society, could not have the effect to alter or amend the original charter. We think that that view is based on a misconception of the scope and purpose of the original act and of the application of the famous Dartmouth College case. The said act of 1806 was entitled "An act to incorporate Medical Societies for the purpose of regulating the practice of physic and surgery in this State." It provided that the physicians and surgeons, in the several counties of the state, might meet and, being not less than five in number, organize by the election of officers; and that said societies so organized should thereupon become "bodies corporate and politic." It also provided for the organization of a corporation by the name of "The Medical Society of the State of New York." It empowered the Societies thus organized to examine students and give diplomas under the hand of the President and the seal of the Society, which should entitle the holder to practice physic or surgery, and provided that after the first day of the following September, no person should commence the practice of physic or surgery without having passed the examination and received a diploma from one of the Medical Societies thus established; that it should be lawful for the societies established by the act "to make such by-laws, rules and regulations—relative to the admission and expulsion of members—as they or a majority of the members at their annual meeting shall think fit and proper: Provided, that such by-laws, rules and regulations—be not contrary to nor inconsistent with the constitution or laws of this State or of the United States" * * * ; that it should be within the power of the Legislature "to alter, modify or repeal this act, whenever they shall deem it necessary or expedient." It also repealed a former act entitled, "An act to regulate the practice of physic and surgery in this State," evidently referring to an earlier act, by which the Chancellor, Judge of the Supreme Court or Common Pleas, or Master in Chancery was authorized to license physicians to practice (See Chap. 45, Laws 1797).

It was decided by the Supreme Court in 1835 that the power to disfranchise a member conferred by the Act of 1806, which was revised in 1813 (Chap. 94, R. L. 1813) could only be exercised upon common law grounds, which did not include original disqualifications for membership (Fawcett vs. Charles, *supra.*). The case of People *ex rel.* Gray vs. Medical Society (24 Barb. 570) was decided in 1857. The proposition that a member could only be disfranchised on common law grounds was reiterated and it was held that a regulation of a medical society, prescribing a tariff of fees for medical services to be performed by its members, was unauthorized and that a violation of such regulation did not furnish ground for the disfranchisement of a member. In 1865, the Court of Appeals decided that a licensed physician could not be denied membership in a county medical society for not having conformed to the conventional rules of the society at a period antecedent to his application, and that there was no power of expulsion, except on common law grounds: *i. e.,* "1.—Violation of duty to the society, as a member of the corporation; 2.—Offenses as a citizen against the laws of the country; 3.—Breach of duty in respect alike to the corporation and the laws." (People *ex rel.* Bartlett vs. Medical Society, 32 N. Y., 187.) In 1866 the Legislature passed an act, being Chap. 445 of the laws of that year, which provided that it should be lawful for any County Medical Society "to establish such rules and regulations for the government of its members as they may deem fit, etc.;" that "each County Medical Society shall have full power and authority to enforce discipline among its members and obedience to its rules and regulations, with power to otherwise discipline, as they may deem most advisable for the best interest of said Society" and that any member grieved by the action of a County Medical Society should have the right to appeal to the State Medical Society. The said provisions were substantially incorporated in the present Membership Corporation Law (See Sec. 8, Sec. 210-4, Consol. Laws, Chap. 40, Laws 1909).

The Act of 1866 was obviously intended to enlarge the powers of medical societies, as defined by the said decisions of the courts, and the right to amend, alter or repeal was expressly reserved in the original act. Moreover, the Dartmouth College case has no application to this case for still another reason. The plaintiff was not a party to the contract upon the incorporation of the defendant Society in 1806. It has not objected to the subsequent acts of the Legislature having the effect to amend its act of incorporation, but, on the contrary, has accepted said amendments and has adopted by-laws upon the authority thereof. The plaintiff's franchise as a member was not acquired by him until 1904. His contract is to be construed according to the law in force when it was made.

Moreover, the Act of 1806 is quite broad enough to justify all that the defendant Society has undertaken to do. It was incorporated not alone "to contribute to the diffusion of true science and particularly to the knowledge of the healing arts," as appears to have been supposed by the learned Justice at Special Term, but to examine and license physicians and surgeons to practice and to regulate the practice of physics and surgery, and the former act on that subject was repealed. The power to pass by-laws relative to the admission and expulsion of members, though conferred in general terms, is to be construed with reference to those broad general powers. Every licensed physician of good character and having the necessary qualifications was entitled to membership (People *ex rel.* Bartlett vs. Medical Society), but surely the Society was not bound to retain in its membership the charlatan, the quack or the fraud, and thereby to certify to his professional standing. Moreover, its relation to the public and to the profession is such, that the mere severing of membership of one guilty of an offense, meriting discipline, would not serve its corporate purposes. County Medical Societies are much more than mere private corporations or social clubs. The scope of the original act of incorporation and of the subsequent acts relating to them shows that they were intended to discharge important duties to the public. The fact that the power to license physicians and surgeons has been devolved upon the Board of Regents (Sec. 169, Public Health Law, Consol, Laws, Chap. 49, Laws 1909), does not affect the question. It seems plain, therefore, that a member on his admission to the Society assumes an obligation, not only to conform to the rules and regulations of the Society respecting his immediate relations to it, but as well to observe its standards of professional ethics, and that a breach of that obligation in any respect involves a violation of duty to the Society. Certainly, any discreditable act of a member in his professional relations tends to discredit the Society. The plaintiff agreed upon becoming a member to submit to the discipline of the Society for any act unfavorably affecting "the character, dignity or interest of the medical profession, or of the Society." The by-laws, rules and regulations of the Society would have no sanction, if its discipline could be evaded by a resignation. Whereupon it follows not only that the Society has the power to expel for unprofessional conduct, not directly involving the relations of the member as such to the Society, but that it also had the power to pass the by-law, that no member should be permitted to resign under charges.

It is probable that the defendant could not try the plaintiff while under charges. It could have waited until the period of suspension expired or it could have revoked the suspension. Restoration is not the same

as original admission to membership. The plaintiff was at all times a member. His rights as such were temporarily in abeyance. After restoration he probably could not again be tried upon the charges on which he was suspended. But the present charges are entirely different. He was suspended for an act of charlatanry; he is now charged with forging hospital records to conceal the nature of that act. His guilt of the latter charge cannot be assumed in advance of a trial, and it was of course not passed upon when his suspension was removed.

While I have discussed the case from the standpoint of the plaintiff's rights and obligations as a member of the defendant Society, I am far from suggesting that a court of equity should enjoin a County Medical Society from inquiring into unprofessional conduct, either of members or non-members.

The order should be reversed with $10 costs and disbursements, and the motion to continue the injunction denied, with costs.

All concur.

BILLS INTRODUCED INTO THE LEGISLATURE.

March 17 to April 21, 1911.

In Assembly.

An Act to amend sections 76, 77 and 84 of the Public Health Law and adding a new section, 76-a, relative to the discharge of sewage, and authorizing the State Commissioner of Health to order the discontinuance of the pollution of waters of the State. By Mr. Bush. To Public Health Committee. Printed No. 1280. Int. No. 1104.

An Act to amend the Public Health Law, by adding a new section, 332-a, providing for the labeling of canned goods with the date, year and month when such food product is canned. By Mr. Spielberg. To Public Health Committee. Printed No. 1316. Int. No. 1129.

An Act to amend section 328 of the Public Health Law, relative to statements by physicians of precaution to be taken on the premises of a tuberculosis patient. By Mr. Evans. To Public Health Committee. (Same as S. 785.) Printed No. 1362. Int. No. 1152.

An Act to amend section 1167 of the Greater New York charter, by making the Commissioner of the Tenement House Department a member of the Board of Health. By Mr. Shortt. To Cities Committee. (Same as S. 865.) Printed No. 1369. Int. No. 1159.

An Act to amend section 1341-a of the Greater New York charter, by providing that the Tenement House Department shall at such times and in such manner as may be deemed best, inspect all tenement houses affected with disease or unfit for occupancy, and providing for a staff of medical inspectors to be assigned by the Department of Health. By Mr. Shortt. To Cities Committee. Printed No. 1370. Int. No. 1160.

An Act to amend the Greater New York charter by adding a new section, 1083-a, requiring the Board of Education to furnish eyeglasses or spectacles free, to any pupil of a public school who shall require the same. By Mr. J. Levy. To Cities Committee. Printed No. 1407. Int. No. 1192.

An Act to amend section 1241 of the Greater New York charter relative to registration of births, by providing if the physician attending at the birth cannot be found, application may be made to the Supreme Court for an order directing the Commissioner of Health to record the birth. By Mr. Brooks. To Cities Committee. Printed No. 1424. Int. No. 1208.

An Act to amend the Public Health Law, by adding a new section, 22-a, providing that in case of death within six months after the use of any serum, antitoxin or vaccine, the fact of such inocculation, the date thereof and the statement of its relation to the death of the person must be stated in the death certificate by the physician last in attendance. By Mr. Ahearn. To Public Health Committee. (Same as S. 817.) Printed No. 1432. Int. No. 1210.

An Act to amend subdivision 2 of section 45 of the Insanity Law providing for the appointment of stewards in State hospitals by the hospital superintendent without the approval of the Lunacy Commission. By Mr. A. J. Levy. To Judiciary Committee. (Same as S. 822.) Printed No. 1437. Int. No. 1215.

An Act to amend the Public Health Law, by adding a new section, 312-a, requiring the use of individual towels in every lavatory or washing place for public use, whether maintained by a municipality, public institution or by a private person or corporation. By Mr. Shlivek. To Public Health Committee. Printed No. 1440. Int. No. 1219.

An Act making appropriations for construction, additions and improvements at the State hospitals for the insane. By Mr. A. E. Smith. To Committee on Ways and Means. Printed No. 1507. Int. No. 1277.

An Act making an appropriation for the equipment of kitchen and dining-room building at the Central Islip State Hospital for the Insane. By Mr. A. E. Smith. To Committee on Ways and Means. Printed No. 1509. Int. No. 1279.

An Act to amend the town law, in relation to enlarging the water system and the water supply district. By Mr. Evans. To Committee on Electricity, Gas and Water Supply. Printed No. 1513. Int. No. 1283.

An Act to ratify, confirm and legalize the proceedings of the village of East Aurora, in the County of Erie, State of New York, for the construction of sewage disposal works, sewer system and lateral sewers for said village, and for the issuance and sale of bonds of the said village to pay for the cost of constructing the said disposal works, sewer system and lateral sewers, and to provide for the payment of the said bonds. By Mr. Thorn. To Committee on Affairs of Villages. Printed No. 1517. Int. No. 1286.

An Act to establish a commission to inquire into the cause of the abuse, cruel and inhuman treatment, illegal detention and the management of the Matteawan State Hospital. By Mr. Cuvillier. To Committee on Ways and Means. Printed No. 1571. Int. No. 1332.

In Senate.

An Act to amend section 328 of the Public Health Law, relative to statements by physicians of precaution to be taken on the premises of a tuberculosis patient. By Mr. Rose. To Public Health Committee. (Same as A. 1152.) Printed No. 876. Int. No. 785.

An Act to amend section 198 of the Public Health Law, relative to licenses for the practice of dentistry. By Mr. Fiero. To Public Health Committee. Printed No. 908. Int. No. 813.

An Act to amend the Public Health Law, by adding a new section, 22-a, providing that in case of death within six months after the use of any serum, antitoxin or vaccine, the fact of such inocculation, the date thereof and the statement of its relation to the death of the person must be stated in the death certificate by the physician last in attendance. By Mr. Travis. To Public Health Committee. (Same as A. 1210.) Printed No. 912. Int. No. 817.

An Act to amend subdivision 2 of section 45 of the Insanity Law providing for the appointment of stewards in State hospitals by the hospital superintendent without the approval of the Lunacy Commission. By Mr. Bayne. To Judiciary Committee. (Same as A. 1215.) Printed No. 917. Int. No. 822.

An Act to amend section 83 of the Insanity Law, by providing for a new hearing and review of proceedings, committing a person to a State hospital for the insane, after the lapse of one year. By Mr. Duhamel. To Judiciary Committee. (Same as A. 1021.) Printed No. 929. Int. No. 829.

An Act to amend section 1167 of the Greater New York charter, by making the commissioner of the tenement house department, a member of the Board of Health. By Mr. T. D. Sullivan. To Cities Committee. (Same as A. 1159.) Printed No. 977. Int. No. 865.

An Act to amend the charter of the city of Johnstown, authorizing the acquisition of lands outside the boundary of the city for sewer and sewage disposal plant purposes. By Mr. Heacock. To Cities Committee. (Same as A. 1142.) Printed No. 995. Int. No. 883.

An Act to amend the penal law, relative to the sale of tainted food. By Mr. Stilwell. To the Committee on Codes. Printed No. 1087. Int. No. 965.

An Act to ratify, confirm and legalize the proceedings of the village of East Aurora, in the County of Erie, State of New York, for the construction of sewage disposal works, sewer system and lateral sewers for said village, and for the issuance and sale of bonds of the said village to pay for the cost of constructing the said disposal works, sewer system and lateral sewers, and to provide for the payment of the said bonds. By Mr. Burd. To Committee on the Judiciary. Printed No. 1086. Int. No. 964.

An Act to amend the state charities law, generally. By Mr. Bayne. To Committee on Judiciary. Printed No. 1092. Int. No. 970.

COUNTY SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

Regular Meeting at the County Court House, April 11, 1911.

SCIENTIFIC SESSION.

"The Operative Treatment of Fractures," D. L. Kathan, Schenectady.

"The Early Symptoms of Abdominal Disease," J. B. Garlick, Schenectady.

ONTARIO COUNTY MEDICAL SOCIETY.

Quarterly Meeting at Clifton Springs, April 11, 1911.

SCIENTIFIC SESSION.

"Some Pressing Needs in Public Health Work in Ontario County," W. A. Howe, Phelps.

"Nervous and Mental Symptoms Secondary to Arterio-Sclerosis, with Report of Case," H. C. Burgess, Canandaigua.

"Two Stage Prostatectomy. A Safe Operation," W. W. Skinner, Geneva.

THE MEDICAL SOCIETY OF THE COUNTY OF WYOMING.

Regular Meeting, Tuesday, April 11, 1911, at Attica.

SCIENTIFIC SESSION.

"Conservative Ophthalmology," F. Park Lewis, Buffalo.

"The Pathology of the Living," W. D. Johnson, Batavia.

"The Spirit of Fellowship," J. W. LeSeur, Batavia.

MEDICAL SOCIETY OF THE COUNTY OF DUTCHESS.

Regular Meeting, Wednesday, April 12, 1911, at Poughkeepsie.

BUSINESS SESSION.

The following resolutions were adopted:

Whereas, We consider it impracticable and impossible for the average sized county medical society to secure the enforcement of the laws regulating the practice of medicine.

Resolved, That our delegates to the State Society be directed to bring this matter to the attention of the House of Delegates, with the intent that the enforcement of such laws be assumed by the State Society.

Resolved, That the Secretary send copies of these resolutions to each of the county medical societies in this State.

The President, Dr. Pilgrim, appointed the following committees:

Library.—Drs. A. L. Peckham, J. C. Otis, L. C. Wood, L. H. Marks, and C. T. Cadwell.

Public Health.—Drs. J. E. Sadlier, D. H. MacKenzie, W. J. Conklin, R. H. Breed and J. M. Cronk.

Legislative.—Drs. H. R. Powell, F. W. Parsons, and J. S. Wilson.

Milk Commission.—J. S. Wilson, R. W. Andrews, A. L. Peckham, G. Huntington, and M. M. Lown.

SCIENTIFIC SESSION.

"Criminality," J. H. Cotter, Poughkeepsie.

"The New Nomenclature of Insanity," W. E. Merriman, Poughkeepsie.

"Righthandedness and Lefthandedness," I. Hartshorne, Poughkeepsie.

THE SCHUYLER COUNTY MEDICAL SOCIETY.

On Thursday, March 30th, the Schuyler County Medical Society gave a complimentary dinner at The Glen Springs, Watkins, N. Y., in honor of the fiftieth anniversary of the graduation of Dr. Charles D. Clawson, of Montour Falls, and Dr. Gideon O. Smith, of Odessa. Dinner was served at 2.30, after which Dr. Charles G. Stockton, Professor of the Theory and Practice of Medicine in the University of Buffalo, made an address. Dr. Clawson read a paper entitled, "Reminiscences of a Student of Fifty Years Ago," and Dr. Smith read a paper entitled "The Recollection of a Young Practitioner Fifty Years Ago." Judge O. P. Hurd, of Watkins, made an address upon "The Experiences of a Patient Fifty Years Ago." Dr. Arthur W. Booth, of Elmira, read a paraphrase on Kipling's "Road to Mandalay," entitled "The Road to Yesterday." Dr. Sherman Voorhees, the Chairman of the Sixth District Branch of the Medical Society of the State of New York, made a few appropriate remarks.

Thirty-four members and guests of the Schuyler County Medical Society sat down to the dinner. Dr. Clawson and Dr. Smith were the recipients of hearty congratulations and expressions of the good will of their friends and neighbors.

SUFFOLK COUNTY MEDICAL SOCIETY.

Semi-Annual Meeting at Islip, April 27, 1911.

"A Practical Consideration of Adenoids and Tonsils and Their Treatment," Walter Wesley Carter, New York.

"The Organ of Mastication—Its Anatomical and Physiological Import." Illustrated with lantern slides. Henry C. Ferris, D.D.S.

"The Elementary Principles of Dietetics," Frank Overton, Patchogue.

MEDICAL SOCIETY OF THE COUNTY OF ERIE.

Regular Meeting at Buffalo, April 10, 1911.

At the invitation of the Faculty of the Medical Department of the University of Buffalo, the regular meeting of the Medical Society of the County of Erie was held in Alumni Hall, 24 High Street, on Monday, April 10th, at 8.15 P. M.

The President, Dr. McClure, stated that inasmuch as the minutes of the last regular meeting had been printed in the Journal, the reading of same would be omitted unless objections were offered, and the minutes were declared adopted.

The Secretary read the minutes of the Council meetings of March 6 and April 3, 1911, which, upon motion, were received and filed.

Minutes of the Council meeting of April 3d contained three resolutions each of which were separately taken up.

The first resolution was unanimously adopted as follows:

"*Resolved,* That the Board of Regents of the University of the State of New York be requested to recommend such change in the Medical Practice Act as would raise the requirements for securing the medical student certificate to include, in addition to the standard high school course, one year in college or its equivalent, embracing especially the following subjects: Physics, Chemistry (Inorganic and Qualitative Analysis) and General Biology.

"*Resolved,* That the State Society recommend to the Board of Regents that an investigation be conducted in order to ascertain the number of internships available in the hospitals of the state with a view to recommending a fifth year in hospital for the completion of the medical curriculum."

The following is the second resolution referred to:

WHEREAS, During the past decade, the subject of public health has assumed a great importance, having to do with the conservation of human life, through the control of our potable water supplies, our food products, the introduction of infectious diseases into the country and from one state to another and in various other ways, and

WHEREAS, It has a great economic importance in that this conservation of human life necessarily adds to the wealth of the country, and

WHEREAS, The public health can be more effectively conserved and more efficiently directed from the seat of National Government, be it

Resolved, That the Congressional representatives of this district be requested to use their influence to secure the establishment of a National Health Bureau with a Commissioner of Public Health who shall have a seat in the President's cabinet.

After a short debate upon the subject, the foregoing resolution was adopted.

The third resolution was then read as follows:

"WHEREAS, In the larger cities in the State of New York, nearly half of the births are attended by midwives, many of whom are wholly untrained for the responsible work which they assume, be it

Resolved, That the Erie County Medical Society favor the adoption of an educational standard similar in character to that which is now provided for trained nurses, and that it recommends that the State Medical Society take such action as may lead to the establishment of a standard, the requirement of adequate examinations, with universal registration of all midwives practising in this state."

Dr. Lewis, Chairman of the Committee on Legislation made some explanatory remarks relative to this resolution.

Dr. Pryor said he thought that the resolution should be made much stronger and that arrangements should be made for the education and training of the midwives and, therefore, moved, as an amendment, that this society recommends that some provision be made, in the larger cities, for proper training and education of midwives.

Dr. van Peyma said that the only trained midwives come from Europe, and that if you insist that the standard and education be raised, provision must be made for their training also.

The resolution, as amended by Dr. Pryor was adopted. The remainder of the Council minutes were then adopted and the recommendation contained therein approved.

Dr. Wall, Chairman of the Committee on Membership, submitted a list of four candidates, who were duly elected.

Dr. F. Park Lewis read a letter from Dr. Green, of Chicago, stating that Dr. McCormack, who represents the A. M. A., will be in this vicinity in the near future and asked that Dr. McCormack be given a hearty welcome to Buffalo. The exact date of Dr. McCormack's anticipated visit could not be stated.

Dr. Lewis moved that a committee be appointed from the County Society to take charge of the matter in conjunction with a similar committee from the Academy of Medicine.

Dr. Wende moved, as an amendment, that the subject matter be referred to the Council with power.

Dr. Lewis withdrew his motion and the amendment became an original motion and was adopted.

The business portion of the program being concluded, the following papers were read:

"A Few Ethical Suggestions," E. E. Haley, Buffalo.

"The Logic of Darwin with Regard to Man," F. M. O'Gorman, Buffalo.

"Some Clinical Cases," J. W. Putnam, Buffalo.

"The Non-Ventilation in our Public Schools," shown by lantern slides, N. R. Hopkins, Buffalo.

Each of the subjects produced a spirited discussion, and at the close of the discussion on Dr. Haley's paper, Dr. Wall moved that a committee of five be appointed to prepare rules governing the recommendation.

Dr. Pryor said his report on "Division of Fees," which was adopted, provided for the appointment of such a committee, and suggested that Dr. Haley be appointed as chairman of such committee.

Dr. Wall then withdrew his motion and the President said he would appoint such committee with Dr. Haley as chairman.

The members, at the close of the scientific program, adjourned to the library where a collation was served.

BOOK REVIEWS.

LE HACHICH. Essai Sur la Psychologie des Paradis Ephémères. Par Raymond Meunier. Par., Bloud & Cie, 1909. 217 pp., 3 pl. 12vo. Price: Paper, 3 fr., net. (Bibliothèque de Psychologie expérimentale et de Métapsychie.)

We have in this volume an extensive discussion of hachich or Indian Hemp from a chemical, historical, therapeutical, literary and psychological standpoint: Commencing with the direct statement that nowadays people take rather to morphine and opium to deaden feeling on account of the prevalence of fatigue and sadness. than to seek the exaltation furnished by hachich as in former times, the author gives in detail historical allusions to the plant, its geographical habitat, the composition of various mixtures used under varying local names in the east and the active principles that have been isolated. The ancient dispute as to whether men become addicted to poisons to obtain oblivion or to obtain stimulation and exaltation is taken up at some length. Hachich does not in reality add anything to the power of intellect or comprehension as it seems to do sometimes, but reveals, and even to oneself, one's deepest personality and emotions. Under its effects the most astonishing feature is the tremendous capacity for suggestion and auto-suggestion developed; and just here is quoted the historic description of Marco Polo of the wonderful dreams and gardens of the ancient devotees of assassination, while the descriptions of two semi-habitués, Gautier, the writer, and Baudelaire, the poet, are detailed and compared. A sort of hysteric or hypnotic state is developed in which the same precautions should be observed as in those very conditions.

Moreau de Tours claimed that as the effects of hachich were like those of dreams, and also like those of insanity, dreams and insanity must be identical, and called dreams the normal and insanity the pathological type of the same condition; and so to find out how a maniac unreasons he attempted to become one experimentally by taking hachich. That was the introspective reasoning of philosophy and not the objective reasoning of scientific medical observers and therefore was open to error in many directions. The three conditions are allied and analogous in some respects, but it is easy to prove that they are not identical. Nevertheless, de Tours has left us the best existing description of the eight classic stages of the effects of hachich, with num-

erous other valuable data and deductions. The author then cites a number of other observations on men and animals, while the various stages and effects as seen in habitués, and their developing and characteristic manias, are taken up in statistical form from a large number of cases in the asylum in Egypt.

As to the therapeutic action of hachich it is found that better and more constant effects may be obtained from original Oriental preparations than from modern pharmacopœial standards. In general, hachich has been found a very uncertain drug in any condition and inferior to many others in common use for any one given purpose. The subsequent depression nullifies its apparent value in melancholia and neurasthenia, but the author suggests an interesting way in which it may be of use for diagnosis and prognosis in some mental disorders, and for employing the substitutive method in deliriums, as well as to produce an increased condition of suggestibility. Robert Kingman.

International Clinics. Vol. IV., Twentieth Series. Edited by Henry M. Cattell, A.M., M.D. Philadelphia. J. B. Lippincott Company. 1910.

This volume contains sections devoted to the recent progress in diagnosis, treatment, medicine, surgery, neurology, pathology, ophthalmology, and state medicine. It is illustrated by a large number of plates and figures. The use of "606" is presented; Dr. L. F. Booker has a good chapter describing the methods of examining the blood which are of greatest importance for the general practitioner. An instructive sociologic paper is by John Glaister on the law respecting compensation for workmen for accidents in Great Britain, and its operation.

The paper by W. S. Wadsworth, on wounds by firearms is a valuable study. J. P. W.

A System of Diet and Dietetics. Edited by G. A. Sutherland, M.D., F.R.C.P., London. Henry Frowde. Oxford University Press. 1908. XIII, 893 pp. 8vo. Price: Cloth, $10.50 net. Oxford Medical Publications.

To begin with this book contains something else beside tables and statistics impossible to be memorized. Its collaborators, moreover, do not take themselves so seriously as to exclude the values of the opinions of others.

Condemnation of proprietary foods stands out well, and rectal is assigned to its proper level. Once more is brought out the fact that there is yet much unknown as regards the real end changes of food into energy and life. Many of the dietary articles would hardly appeal to American palates. Pawlow's assertion, supplemented by proof, that the digestive secretions vary according to the dietary work which they are asked to perform, is brought out, a fact which should be borne in mind.

The statement is made that pastry properly made is wholesome. This should be to some extent discounted.

That froth upon the tongue when first protruded, is a sign of nervousness, is beyond a doubt true. The three consequences of modern diet upon man, referred to upon page 54, make themselves manifest in our everyday practice.

The section treating of artificial infant feeding should be reprinted in red ink, and circulated among the twentieth-century women, and many twentieth-century physicians as well, who are in part responsible for the decrease in nature's way of nursing, and incidentally for the increased infant mortality. Woman was given breast secretion for the purpose of giving nutrition to the newly born, yet one would hardly think so, judging by the demand for infant foods and bottles nowadays.

The chapter upon Experimental Work on diet is filled with interesting facts. The warning is well sounded that we should not go too far in the minimizing of protein foods. It is gratifying to see the amount of milk in milk diet somewhat limited.

Descriptions of the various dietary "cures" is worth reading, if not taken too seriously. Page 210, in large print, "It may be definitely and positively stated that proprietary foods are not necessary either in sickness or in health." This certainly looks good. The portion devoted to alcohol should be read carefully whether one be imbued with the idea of teetotalism or not. In fevers—'Treat the individual, and be not too much hampered by the theories of dietetics'; surely this is sound advice. The space occupied by dietetics of the various forms of kidney troubles is one of the most instructive in the book.

On the whole, one cannot read this work through without becoming impressed with the vast amount of common sense and conservatism which is shown from cover to cover. The price may be deemed somewhat prohibitive in some quarters. H. W. L.

Education in Sexual Physiology and Hygiene. A Physician's Message. By Philip Zenner, Professor of Neurology in the Medical Department of the University of Cincinnati. 16mo. 128 pages. Cincinnati. The Robert Clarke Co. 1910. Cloth, $1.00.

This little book gives some talks by Dr. Zenner to school children and young men, and also discusses the best methods of instruction in matters of sex. The aim of the book is to impress upon parents and teachers the importance of sex instruction and to assist them in imparting it in a manner that will do good and not harm. The author states that the highest aim of this book is to help create a public sentiment which will demand teaching in sexual physiology and hygiene.

The International Medical Annual. A Year Book of Treatment and Practitioner's Index. 1910. Twenty-eighth Year. 762 pages, fully illustrated by colored and stereo plates. New York. E. B. Treat & Co. Cloth, $3.50.

The International Medical Annual has long been in favor with the profession as a compact and comprehensive year book. Arranged in alphabetical order the busy practitioner will find a review of the year's medical literature in a series of condensed abstracts that will enable him to learn quickly what progress has been made during the year and what is the "very latest" method of treatment. References to the original articles are appended as foot-notes. A number of special contributions are added, covering subjects which the editors consider worthy of more extended treatment. As an illustration may be mentioned Dr. A. Butler Harris's most timely "An Introduction to the Treatment by Bacterial Vaccines."

The need of such a yearly ready-reference work must be apparent to every physician who desires to keep posted on the progress of medical science, and the International Medical Annual has our hearty recommendation.

DEATHS.

George Abbott, M.D., Hamburg, died March 27, 1911.

Simon M. Brainin, M.D., New York City, died March 31, 1911.

Charles Stedman Bull, M.D., New York City, died April 17, 1911.

C. F. Gardner, M.D., West Hampton Beach, died March 31, 1911.

Henry Krollpfieffer, M.D., New York City, died April 12, 1911.

Charles Talbot Poore, M.D., New York City, died April 4, 1911.

Robert Rae, M.D., Portageville, died April 1, 1911.

Jessie O. Randall, M.D., Silver Springs, died April, 1911.

J. H. Sackrider, M.D., East Randolph, died March, 1911.

Thomas P. Scully, M.D., Rome, N. Y., died April 19, 1911.

F. W. Slocum, M.D., Camillus, died March 16, 1911.

Julius A. Stegmair, M.D., New York City, died April 4, 1911.

Elbert G. Van Orsdell, M.D., Brooklyn, died March 25, 1911.

NEW YORK STATE JOURNAL OF MEDICINE

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EDITORIAL DEPARTMENT

THE GOVERNMENT SERVICE AS A CAREER FOR THE YOUNG PHYSICIAN.

IN a few weeks the medical schools of the country will graduate several thousand young men who have chosen medicine as their life work. Most of them have been attracted to the profession simply as a means of earning a livelihood. A few earnest and inspired souls will choose medicine as a career.

The men of the first class regard the practice of medicine just as they would a grocery or dry goods store or a seat in the stock exchange. They are interested in the commercial side of the profession. Some of them with ingratiating manners, tact and a good business sense will gain large practices and perhaps amass a respectable competence. Most of them, however, will rank no higher in the financial scale than the ordinary tradesman. They will make a bare living, no more. To none of these men, successful or unsuccessful, will the profession owe anything in the way of uplift, any contribution of importance to our art or science. They will, in due time, marry and give in marriage, run the brief career allotted to all mortals and soon the places that know them will know them no more. Their dust will mingle with that of their forbears and their spirits stand before great Osiris to be weighed and judged by the assessors of the dead.

It is to the men who have chosen medicine as a career, the men of high ideals and fixed purpose that the world must look for light and leading. The future of medicine will, of necessity, be committed into their hands, for only the strong may lead and they alone are truly strong, able to impress their individuality on their day and generation whose ideals are lofty and whose aim reaches beyond the present need, who bend not their bow at sparrows, but draw the bowstring to the ear and point the arrow at the rising sun so that it may travel afar and bring down noble game.

Men such as these attain their heart's desire only after a season of mighty struggle. The idealist in medicine has a hard time of it, just like the idealist everywhere else. His satisfaction is in his ideal and the attaining thereof. To that end he lives, toward that goal he presses forward and dies content, if like the Marathon runner of old, he attains it.

For men of this type, the profession of medicine is becoming increasingly difficult. The evils of commercialism have multiplied so rapidly of late years that unless some change comes about, medicine will cease to be a profession and will degenerate into a business and unprofitable at that. Nothing illustrates the evil tendencies of the times better than an advertisement which has recently been sent broadcast to medical men containing instructions how to grow rich. The table of contents embraces the methods of the pander, the bunko steerer and the bucket shop. These, the young doctor is gravely advised to adopt and all will be well. Evil will be the day when these methods are adopted by the medical profession. Evil already is the day when such a publication can find a printer and purchasers.

The standard which the government has

always set for the members of the medical profession who desire to enter its service has ever been high. Not only does it demand the highest professional qualifications; it also insists on a broad preliminary education. It is thus able to secure men of culture as well as men of sound medical education. Once entered on a government career, be it in the medical corps of army, navy or the marine hospital service, the man of high ideals for whom medicine is a real career and not a purely commercial proposition finds himself at once in congenial company. Secure from the anxieties of financial stress which beset the young practitioner in proportion as his ideals are high and his conscience sensitive he finds himself free to pursue his medical studies undisturbed by outside influences.

He receives every encouragement from the government. Clinical laboratories are at his disposal in every government hospital. The latest scientific works with all the principal and important medical journals are provided free of cost. To the man who is interested in research work, the government service offers unrivalled opportunities with all expenses of equipment maintenance and livelihood met. The earnest student of nature's mysteries has no anxious care wherewithal he shall be clothed, wherewithal fed. The young officer entering the medical department of the army or navy receives about $2,000 per annum with additional allowances which brings the pay of the position up to about $2,500 per annum. What young man who enters medicine as a civilian earns half as much? Very many men in the practice of medicine never reach such a sum. With years of service the pay increases up to $6,000.

Very few men in our profession ever make as much in civil life nor does scientific attainment always spell success to the civilian practitioner. A glib tongue, good manners and the business sense as often get the dollars as real ability. Not so with the government service. The scales measure the full weight of the man—and pay no attention to what are mere externals, very necessary, it is true, in dealing with society, but which do not of themselves make a man a good doctor.

We desire to urge the young and ambitious medical graduate who really loves his profession to seriously consider the attractions of the government service. It means congenial companionship with cultured gentlemen. It means freedom from financial stress. It means, whether in army or navy or marine hospital service, opportunity of travel. To the laboratory enthusiast it means unrivalled opportunities, unequalled facilities, ample material.

How many problems of tropical disease and of sanitation await solution? How many problems have already been solved by the modest but great men engaged in the practice of our profession in the service of the government.

There is no name in medicine which shines with greater luster than that of Reed. Following his discovery of the cause of yellow fever, Colonel Gorgas has rendered it possible for the United States to dig the Panama Canal. Had our mortalities from malarial fever and yellow jack even approached that of the French we should have long ago shrunk back appalled with the task. Ashford and King of the Public Health service after a three-year campaign rescued the coffee planters of Porto Rico from the ravages of the hook worm. Kean, of the army, was sanitary adviser to the Cuban government.

The work of the Marine Hospital and Public Health Service to the country at large, it is impossible to overestimate. To the watchful care of its officers is entrusted the protection of the nation from the inroads of the epidemic diseases of Europe and Asia. It secures the United States against the admission of those whom disease has unfitted for profitable citizenship. The scientific work done by this department of the government is of the highest order as evidenced by its publications. The physicians engaged in this work deserve the will of the republic. Their labors are appreciated by their civilian brethren who trust that before long the government will show its appreciation of their great, their invaluable services by equalizing their pay, which is now somewhat less than that which their brethren of the army and navy receive.

The men of all three services have alike wrought great works and striven mightily, not for a few individuals, but for whole races and peoples.

Young men of our graduating classes is there no inspiration in such deeds? Your country needs you. The people of the tropics with all their problems of life and death need you. To all generous souls, blessed with high ideals and generous impulses we sound this bugle call to high duty.

Service to humanity is the only thing that is really worth while in this world. We summon you to great opportunities, to great reward, to a real career.

Original Articles.

REMARKS ON THE THERAPEUTICS OF SALVARSAN.*

By S. J. MELTZER, M.D., LL.D.,
NEW YORK.

Before speaking of the therapeutics of Salvarsan let us rapidly take an inventory of our present therapeutic possessions. There are the two old remedies: quinine for malaria and mercury for syphilis. They are specifics indeed, but science and scientists had nothing to do with their introduction as specific remedies. Since the rise of the new era in medicine three groups of therapeutic procedures were developed. 1. Drugs and measures to control or relieve symptoms of disease. 2. Physiological measures to increase the resistance of the patients. 3. The reaction products of infected animals. The last named group is beyond doubt one of the greatest acquisitions in therapeutics. But the extent of its usefulness will have natural limitations, which I shall not discuss here. As to the first group, I belong to those who believe that the control of symptoms is a very important factor in the treatment of patients and diseases. The attacks upon the value of these drugs came from the anatomical school which never outgrew its therapeutic nihilism. Regarding the second group, I am ready to concede that there is a good deal of self-evident useful truth in the teachings of the school of physiological therapeutics, but there is a glaring disproportion between the quantity and quality of its preachings. Furthermore, I am afraid that many of the medical apostles of treating diseases by free water, free air, free speech and free press, are at the bottom of their heart therapeutic nihilists as far as drugs are concerned.

The same in still fewer words: we possess many drugs for treatment of symptoms of diseases and we are well provided with good advices as how to treat the patients, but we have at our command extremely few remedies for the treatment of the disease itself or its chief cause. And what is worse: a great many of the better class of physicians are still dominated by the old fatalistic doctrine: you may study disease, you may understand it, and you may diagnose it, but you can never cure it.

Now let us look at Salvarsan: what it is capable of accomplishing and how it was created. It is proven beyond controversy that Salvarsan is capable of completely destroying in the animal body the spirochæta of syphilis and of frambœsia, the spirilla of European and African relapsing fever and the micro-organisms of chicken-spirillosis; in short, Salvarsan is a specific remedy against a group of diseases caused by protozoan spirilla; it is a spirillocide. And it is not an accidentally discovered drug. We have here the first instance in the history of medicine of an efficient, specific, synthetic drug scientifically developed by the mental efforts of a single scientist.

As to the principles underlying the selective action of Salvarsan, Ehrlich's chemotherapy is based upon a few comparatively simple assumptions, some of which he conceived very early in his scientific life. Ehrlich assumes that a substance exerts a definite action upon a living animal cell only, when it becomes intimately connected with this cell or fixed by it. A cell, however, cannot fix any substance unless it has a receptor for it. The receptors for chemical substances Ehrlich calls chemoceptors. Various cells are provided with various chemoceptors. Hence when a chemical substance is introduced into an animal body, it becomes unevenly distributed among its tissues, on account of the difference in the affinities of the various tissues to this substance—the affinity of the tissue meaning the possession of specific chemoceptors for the corresponding substance. When the animal body harbors independent cells, for instance pathogenic micro-organisms, it may happen that only these organisms possess chemoceptors for the substance, or they possess these receptors in larger numbers that the cells of the host. The result may then be that the substance would be fixed exclusively in these organisms or in much greater proportion than in the cells of the host. And if the union of the substance and the microorganisms would be of such a nature as to lead to the destruction of the parasite, the introduction of such a substance into an infected animal would lead to a sterilization of that animal. Furthermore, when that substance is a compound, consisting of various, more or less firmly connected chemical groups, the entire complex might become fixed in certain cells, if the latter possess receptors for one of these groups. In this way a destructive group of a complex chemical compound might become active on a cell which possesses receptors only for one of its innocent partners. By successive attempts of introducing groups possessing receptors for certain micro-organisms into a chemical complex possessing a poisonous group, a chemical compound may be finally created which would destroy the parasites and leave the animal host comparatively unaffected. Now that was the method by which Salvarsan was created. But what an amount of ingenuity and strenuous work had to be spent before this goal was reached. Ehrlich and his coworkers experimented first with trypanosomes. We shall not speak here of their work with dyes. The path which lead up to the creation of Salvarsan began with the studies of the arsenical preparations. Atoxyl was the first product which was investigated; but it was soon found that not only the trypanosomes, but also the nervous system of the infected animal, the optic and acoustic centers, possessed effective chemocep-

* Read before the Medical Society of the State of New York, at Albany, April 18, 1911.

tors for this compound. Ehrlich soon recognized the true constitution of atoxyl which permitted the substitution of various derivatives. And now the long and laborious studies began. At first arsacetin was reached, a promising compound which, however, was not yet free from affinities to the nervous system. The next much more satisfactory product obtained was arsenophenylglycin which was the 418th compound in the series. At this period his attention became more concentrated upon the action of these arsenical compounds upon spirilla. Arsenophenylglycin was found very active upon the spirillum of relapsing fever. But still nearly two hundred more compounds were tested until the 606th was reached. This product, dioxdiamidoarseno-benzol or Salvarsan, proved to be ideal in its effects. It destroyed completely the various forms of spirilla within the body. The nervous system of various species of animal hosts remained entirely unaffected by the drug. The curative dose formed in all instances only a small fraction of the toxic dose. Finally a single injection of the remedy accomplished in all the investigated animals and for all forms of spirilla a complete sterilization of the infected animal. Ehrlich laid great stress upon this last fact and for good experimental reasons. In the experiments with the other arsenical compounds and the trypanocidal dyes, it was discovered that the trypanosomes which escaped destruction rapidly acquired complete resistance to the destructive action of the remedies and then became ancestors of very resistent strain of parasites. In consequence of this experience it then became one of the aims of the chemotherapy to obtain a compound which would destroy all the parasites with one injection—*sterilisatio magna.* Such a compound was found in Salvarsan; it destroyed with a single injection the various spirilla in various species of animals.

When we now turn our attention to human diseases which are caused by spirilla we find in the first place that in relapsing fever one intravenous injection of salvarsan is sufficient to destroy completely all the spirilla and rapidly to cure the patient. This shows that the facts which were derived from animal experimentation holds good also for the human species, at least in such cases as relapsing fever in which the blood is the main abode of the spirilla. The problem, however, becomes complex when we come to judge the effect of salvarsan upon human syphilis, for which we possess now quite a large literature. Not the least complicating element is the fact that a good many of the clinical writers on the subject are not sufficiently well trained in the methods of critical scientific observation. Another very disturbing element is the great bias of some of the authors. How else can the astounding facts be explained when one syphilologist states that he gave up the remedy after using it only in a few cases because of its comparative uselessness and of the harm it does to the central nervous system; while his colleague at the same institution reports with unbounded enthusiasm of the wonderful effect of the remedy in fourteen hundred cases of all forms of syphilis with comparatively little by-effects? Besides the complexities emanating from personal factors, we deal in human syphilis with a chronic disease. In some instances the spirochætæ are undoubtedly enclosed, at least temporarily, in tissues which for the time being cannot be penetrated by the Salvarsan solution.

Furthermore the method of administration of Salvarsan is still in an unsettled state; it is insufficiently absorbed from some subcutaneous or intramuscular injections, and it is too rapidly eliminated, when it is injected intravenously. However, in spite of all these difficulties the great mass of accumulated evidence establishes beyond a doubt that in human syphilis Salvarsan acts in the same specific manner as in the experiments upon animals, that is, *it destroys the cause of the disease.* The following clinical results are undisputed facts. It was found that with but few exceptions an injection of this drug causes disappearance of all accessible spirochætæ. There are already quite a considerable number of cases on record, in which an early injection prevented so far the development of secondary manifestations, the time elapsed being in some cases even seven or eight months. Nearly all forms of syphilitic manifestations, and in all stages, were profoundly affected by a single injection; there were only a few exceptions to this rule. There are quite a good many cases in which all the external manifestations disappeared without recurrence so far. These facts are surely sufficient to show that Salvarsan acts upon human syphilis in a definitely specific manner, that is, it destroys the cause of the disease. Its action is at least as specific as that of mercury upon the same disease. It differs from mercury and has some advantages over it in the following points. Salvarsan destroys all spirilla, mercury affects only the spirochætæ of syphilis. Salvarsan produces apparently antibodies in the blood as is shown by the effectiveness of the serum and the milk of those who were injected with it; there is no evidence of the formation of antibodies by mercury. The effect of salvarsan is much more rapid than that of mercury; one injection of salvarsan accomplishes in two weeks as much as repeated injections of mercury accomplishes in six weeks. Finally, whereas mercury is inimical not only to the parasite but also to the host, it causes cachexia of the patient. Salvarsan, reversely, acts rather favorably towards the host, it stimulates to rapid healing and causes an increase of the weight of the patient. Careful future studies will bring to light any further quantitative and qualitative differences between the actions of the two specifics for the same disease and will determine the conditions

in which they may compete with, or they may supplement each other. However, this desirable end can be brought about only by an unbiased, judicial and scientific attitude towards the merits and demerits of either of the specific remedies.

Here it must be acknowledged that one of the original important expectations regarding the actions of Salvarsan has not been realized in human syphilis. While in the animal experiments one injection cured the disease permanently, this has not been the rule in the treatment of the secondary manifestations. In a good many instances the syphilitic symptoms reappeared even after repeated injections of Salvarsan. While it seems that recedives occur less frequently after intravenous injections and they become strikingly less extensive and less frequent with the repetition of the injections, the fact remains true that in many instances the syphilitic human body cannot be sterilized with one injection. This fact would have to be put down as a very serious drawback in the treatment of syphilis by Salvarsan, on account of the possibility of the gradual development of resistant strains of spirochætæ. Fortunately it has been recently discovered by Margulies in Ehrlich's Institute that in contrast to Arsacetin and arsenophenylglycin Salvarsan does not produce strains of spirilla resistant to it. This important observation finds its confirmation in recent clinical experience. The third and fourth injection of Salvarsan affects the syphilitic manifestations with the same promptness as the first injection. This fact is very significant, it takes away the motive for the aim to destroy all the parasites with one injection, and it may lead to important changes in the method of administration of Salvarsan. On the basis of the foregoing considerations I have recently advocated instead of using one large dose, *to inject for some time at regular intervals small doses of Salvarsan in very dilute solutions into the lumbar muscles.* By this method it may be possible to prevent local and general by-effects as well as recedives. The method offers the further advantage that it could be used by the general practitioner.

THE INDICATIONS FOR SALVARSAN IN SYPHILIS.*

By S. POLLITZER, M.D.

IN coming before you to present the indications for the use of salvarsan in syphilis I feel that it hardly can be necessary to explain that the time has not yet come for a complete or authoritative exposition of my subject and I can presume to present it only with the clear understanding that the knowledge at present at our disposal is incomplete. It is no doubt due to the unprecedentedly thorough manner in which the preliminary clinical tests with salvarsan were made that the introduction of that drug has not followed the usual course with new and important therapeutic agents. As a rule, there is a period of great enthusiasm with exaggerated estimates of the value of the new remedy, followed in turn by a period of equally exaggerated notions of its uselessness. Salvarsan, it seems, has escaped this period of extreme reaction. It is now almost a year since the beginning of the extensive clinical tests of the drug, and there is to-day practical unanimity in the opinion that a great addition has been made to our therapeutic resources in the combat against one of the gravest ills to which the race is subject. I say practical, not complete unanimity, because I have in mind a few caviling voices which would deny the new remedy almost any virtue or ascribe to it so much iniquity as to overbalance any possible value it may possess. There are even some people who insist that mercury is harmful in syphilis. We need not consider them.

The period of preliminary trial of the drug is about finished. We know to-day practically as much about it as we can hope to know until at least two or three years more have elapsed, when we shall be in a position to make a more definite statement of its real value in syphilis, but for the final verdict we must wait at least twenty years.

We know to-day that so far as the active lesions of syphilis are concerned salvarsan is a remedy incomparably superior to mercury both in point of certainty and of rapidity of action. We have all experienced the joy and the wonder of the immediate melting away of a gummatous infiltration or the rapid healing of an ulcer after an injection of mercury. This rapidity of action that occurs occasionally after mercury occurs quite regularly after salvarsan. In the first months of trial of the new drug we were led to expect too much, we were under the influence of the inspired hope of a *sterilisatio magna* from a single dose of the drug; and most of us were employing what we have since learned is the least effective method of giving the remedy, subcutaneous injections of the neutral suspension. During this period a number of failures occurred; recurrences were noted in a large proportion of cases; only a small number showed a negative Wassermann reaction after five to six weeks. This was my own experience; it was the general experience of those who employed the Wechselmann technique and trusted to a single injection. Since we have come to use intravenous and intramuscular injections, and more, since we are giving repeated injections of the drug, employing a discontinuous sterilization, *sterilisatio refracta*, the results, measured by the freedom from recurrences, as well as by the change from a positive to a negative Wassermann reaction, are far more favorable.

To dwell for a moment on this question of

* Read before the Medical Society of the State of New York, at Albany, April 18, 1911.

technique I wish to say that in the past five months I have employed the drug in two ways only; by the intravenous route and by intramuscular injection of an oily suspension. In some cases I have used both methods, in some I have trusted to the intramuscular injections alone. But in no case do I consider a single injection of more than temporary benefit; a single injection is justified in my opinion only as a *quasi* emergency measure. That a single injection of salvarsan is of only relative value in the treatment of syphilis would be made perfectly obvious from the answer which every syphilographer would give if he had to choose between one injection of salvarsan on the one hand and the old established course of treatment with mercury on the other. And yet a single injection of salvarsan has a great value and a distinct place in the treatment of syphilis.

(1) In the first place every patient with active infective lesions of the disease should receive a dose of salvarsan. Patients with such lesions—eroded chancres, moist papules, condylomata, mucus patches—whose surface are swarming with spirochætæ are a menace to their entourage and the community. Their lesions must be sterilized at the earliest possible moment. A single dose of salvarsan will render such patients harmless within a few days, often within twenty-four hours. I regard these lesions as constituting the most important indication for the immediate exhibition of the drug. If every such case could be given a dose of salvarsan as soon as the lesion appears the cases of accidental infection with syphilis, the cases of syphilis insontium would practically disappear from the world and the number of infections in general be enormously diminished so that in a few years we might hope to find syphilis among the rare diseases.

(2) In the second place every case with extensive gummatous or ulcerative lesions should receive a dose of salvarsan. The effect of salvarsan on such lesions is, in general, so marked, so prompt, that in justice to our patients we owe them this treatment which so greatly shortens the period of the local treatment.

(3) Cases in which important structures like the eye or the throat are involved should receive salvarsan.

(4) Cases with painful lesions of the bones or of the throat should receive salvarsan. Whoever has seen a case with severe osteoscopic pains that have made life a burden for the sufferer pass a painless night immediately after an injection, or a case with lesions in the throat that made the swallowing of even liquids a torture, eat solid food within four hours after an injection will realize the value of the drug in this class of case, simply for the relief of pain.

(5) Cases of syphilitic cachexia should receive a dose of salvarsan. In these cases the effect of the drug on the constructive metabolism of the patient is most striking; a gain in body weight of ten to fifteen pounds within a fortnight has been observed repeatedly.

(6) Cases of syphilis complicated by pulmonary tuberculosis should receive salvarsan. In these cases the tubercular process is aggravated by the exhibition of mercury and iodides and the fear of further damaging the patient's lungs makes it difficult to treat his syphilis properly. A dose of salvarsan is of value not only in improving his syphilis but actually by its good effect on the systemic metabolism benefits his tuberculosis. Where cavities are present in the lungs intramuscular rather than intravenous injections should be employed.

(7) Cases of hereditary syphilis in infants should receive salvarsan, of course in minute doses. Here again we have the prompt antisyphilitic effect of salvarsan aided by its tonic effect on metabolism.

(8) Cases in an early stage of tabes with pains or sphincter symptoms should receive salvarsan in small doses. While we cannot expect to restore degenerated nerve tracts, the work of Erb and Nonne has made it probable that in early tabes there are still active syphilitic foci in the cord, and it seems likely that salvarsan will at least exercise an inhibitory influence on the course of the disease.

(9) The rare cases of over-sensitiveness to mercury on the one hand or of resistance to the effects of mercury on the other should, of course, be treated with salvarsan.

(10) Cases which notwithstanding a thorough course of mercury show a positive Wassermann reaction should even in the absence of visible lesions receive a dose of salvarsan. In the present state of our knowledge a positive Wassermann reaction must be regarded as evidence of an active focus of syphilis. In several cases which had received a four or five months' course of salicylate of mercury injections in doses up to five grains (0.3) a persisting positive Wassermann reaction was promptly changed by an injection of salvarsan.

We have considered thus far the indications for a single dose of salvarsan. The question of repeated doses of the drug is still to be considered. This subject, however, involves the whole question of the ultimate value of salvarsan in the treatment of the disease as distinguished from the treatment of its symptoms. On this question we are at present unable to speak with authority. It seems to me most unlikely that a remedy of such potency in relieving the symptoms of the disease should not, when employed to the best effect, succeed in eradicating the disease itself. With this idea I am treating a selected number of cases with repeated doses of salvarsan alone, that is without mercury. It is, of course, too soon to speak of results; suffice it to say that they are at least promising. I have already a number of cases of recent infection that show no symptoms and are Wassermann

negative, and I hope to carry these through a year or two with injections of salvarsan at intervals of six to eight weeks. I have not had a single case in which symptoms persisted after two injections and I have found very few cases that have failed to respond with a negative Wassermann reaction after two or more injections. The few cases of persistent positive Wassermann reaction after two or more injections, it is interesting to note, were those in which there were lesions of the bones or of dense connective tissue. For instance, a case of extensive ulcerative lesions of the skin and mucosa with a perforation of the bony palate remained strongly positive after four injections, though all lesions were completely healed after the second injection. A case of syphilitic pachymeningitis with attacks of epilepsy recurring at constantly shorter intervals has had no attack since his first injection four months ago but is still Wassermann positive. In these cases I think it likely that the dense tissue in which the spirochætæ lie serve to protect these organisms from the action of salvarsan. I am accordingly interposing a course of iodides before proceeding further with salvarsan, and my results here too are promising.

All this, however, belongs to the music of the future; in a couple of years I hope to be able to speak of results. The solution of these questions of detail should be left to those who possess ample material and facilities for study. Meanwhile I feel that we may rejoice that we are living at this period when such vast strides are being made in the pathology and therapy of one of the most interesting as well as the most baleful of the great scourges of the race.

In conclusion I desire to express the opinion that in the present state of our knowledge every case of syphilis that comes to you for treatment should receive an injection of salvarsan if it comes under one of the ten heads of indications which I have briefly discussed, and in addition, and I would state this with all the emphasis in my power, the patient should receive the fullest and best course of treatment with mercury that you can give him.

AN ANALYSIS OF THE CLINICAL AND SEROLOGICAL RESULTS OBTAINED IN THE TREATMENT OF ONE HUNDRED AND SEVENTY-FIVE CASES OF SYPHILIS WITH SALVARSAN.*

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A MORE extended experience has not altered my views regarding the value of salvarsan; on the contrary, I am more and more impressed with its extraordinary therapeutic qualities. Observations over a period of eleven months have led me, however, to formulate more definitely my ideas as to its indications and employment in the different stages of syphilis. While the original claim of a *therapia sterilisans magna* is no longer entertained by Ehrlich or the many clinicians who have collaborated with him, excepting perhaps in the very early stages before generalization of the spirochætæ has taken place, it cannot be gainsaid that our means of controlling and curing the disease have been materially strengthened by the addition of salvarsan to the therapeutics of syphilis. The chief question to determine at present, it seems to me, is the standardization of its method of administration. With the accumulation of additional clinical and serological experience our ideas on this point have become more settled, and it is now quite conclusively established that a repetition of the dose in practically all stages of the disease is desirable. In the primary and secondary stages it seems possible that two injections at intervals of from two to four weeks may, in certain cases, bring about a negative Wassermann reaction. This has occurred in my experience in at least four cases before the development of secondary manifestations, in three with a single dose. Data bearing on these cases are briefly as follows:

A. B. Genital lesion of several days' duration, inguinal adenopathy, and a weakly positive Wassermann reaction. On October 24, 1910, injection of 0.6 gramme neutral suspension. No secondaries developed, the serum reaction became negative December 18th, and has remained so up to the present time.

C. D. Physician, treated November 28, 1910, with 0.6 gramme alkaline solution for two extragenital initial lesions; serum reaction positive. No secondaries appeared; Wassermann reaction, January 27th, negative; March 11th, negative.

E. F. Genital sclerosis and negative reaction. February 25, 1911, 0.5 gramme intravenously. No further clinical symptoms, and serum reaction negative up to this time.

G. H. Physician, tonsillar lesion and strongly positive Wassermann reaction. February 21st, 0.5 gramme intravenously; March 10th, 0.4 gramme oil suspension. Wassermann reaction, February 17th, strongly positive; March 30th, negative.

From the foregoing it will be noted that in the two first cases which have been observed over the longest period of time the reaction in the one has remained negative for practically four months and in the other for three. These cases had no other treatment than the one dose of salvarsan. In the case of G. H., it was possible with two doses to obtain a negative reaction after thirty-seven days.

The 175 cases treated included:
Five primary.
Nine primary and secondary.
Forty early secondary.
Twenty-five late secondary.
Forty-one tertiary.
Eight latent.

* Read before the Medical Society of the State of New York, at Albany, April 18, 1911.

Thirty-eight parasyphilis.
Nine hereditary.

While the immediate clinical results were satisfying in all cases of cutaneous or mucous membrane manifestations, except in a minority of them it has not been possible to obtain a prompt reversal of the serum reaction with a single dose alone. It should be noted here, however, that Hunterian chancres are more slowly influenced than other lesions. Epidermization of the ulceration takes place quickly, but the induration often persists for weeks and only gradually subsides. Some of these nodules examined for spirochætæ failed to demonstrate their presence. They are possibly significant in the sense of a potential recurrence. Of forty-nine cases treated in the early secondary stage I have been able to follow only about one-third serologically, as many of the patients live at a distance. Of this number there are now nine clean negative reactions as below:

I. Chancre, July, 1910; secondaries six weeks later. Treatment, mercury internally for two weeks prior to 0.6 gramme alkaline solution, salvarsan, intramuscularly, October 29, 1910. Wassermann reaction, October 27th, +; November 11th, ++; November 6th, —; March 1, 1911, —; negative in twenty days with one injection and two weeks' mercurial treatment; has continued negative for three and one-half months.

II. Initial lesion, September, 1910; followed by secondaries. No treatment until November 17, 1910. On this date 0.5 gramme alkaline solution and, December 23d, 0.6 gramme alkaline solution intramuscularly; serum reaction November 17th, ++; November 26th, ++; December 23d, weak +; January 1st, weak +; February 4th, —; March 31st, —; negative in two and one-half months with two injections of salvarsan.

III. Primary lesion, August, 1910; followed by secondaries. Treatment: December 1st, 0.5 gramme alkaline solution, intramuscularly; January 1st to January 27th, inunctions and protoiodide, one-half grain three times daily. Serum reaction: December 1st, ++; December 10th, ++; January 1st, +; February 3d, —; negative in two months, supplemented by a course of mercury.

IV. Primary lesion, September, 1910; followed by secondaries. Treatment: Calomelol inunctions and December 27th, 0.6 gramme alkaline solution of salvarsan, intramuscularly; Wassermann reaction, November 12th, ++; January 31st, —; negative in two and one-half months.

V. Infection not determined. Secondaries in October, 1910. Treatment: January 14, 1911, 0.5 gramme intravenously; February 8th, 0.5 gramme intravenously. Serum reaction: January 1st, +; January 26th, ++; February 15th, weak +; March 11th, —; April 11th, —; negative in two and one-half months with two intravenous injections.

VI. Initial lesion, December, 1910. Treatment, mercury by mouth (30 capsules) and, February 6, 1911, 0.5 gramme salvarsan, intarvenously; serum reaction on March 3d, +; April, —; negative reaction two months after salvarsan treatment preceded by a course of mercury internally.

VII. Initial lesion, December, 1910. Secondaries six weeks later. Treatment, fifty pills; sixteen mercurial injections; March 3, 1911, 0.42 gramme salvarsan, intravenously; March 24th, 0.4 gramme, intravenously; serum reaction: March 2d, ++; April 15th, —; negative six weeks after first salvarsan treatment.

VIII. Of peculiar interest as bearing on the permanency of the effects of the remedy are two cases which I have observed since May and June, 1910, respectively. The first was a patient with severe rupial lesions of the face, neck, and arms developing within the first nine months of infection for which he had taken mercurial pills for several months. On May 19th I gave him an intramuscular injection of 0.3 gramme alkaline solution. At the end of thirty-nine days cicatrization was complete, and he has had no clinical relapse to date. His serum reaction on the day of treatment was ++; June 2d, ++; December 2d, weak +; February 11th, very weak +; April 6th, —; a period of almost nine months in which gradual diminution in the strength of the reaction took place.

IX. The second case was one of multiple chancres of the lips and secondary eruption. Previous treatment: two grains mercury salicylate hypodermically. On June 2d received 0.3 gramme alkaline solution intragluteally. In ten days all visible symptoms were gone, and up to the present he has suffered no relapse. His reaction on the day of treatment was ++; October 23d, —; February 14th, —. These two cases are striking illustrations of the intensive therapeutical properties of the drug even in minimum doses.

I have watched the serum reaction in cases treated with mercury in which the drug was administered in the most approved method by hypodermic use and by inunctions, alternating the one with the other, and with an occasional course given internally, and have not found it possible to obtain such a rapid change in the reaction.

By way of illustration the following cases are cited:

Physician, infected November, 1909. From January 15 to March 2, 1910, protoiodide, one-quarter grain, three times daily. From March 2d to June 24th, ninety-seven inunctions; a rest of a month, and then fifteen injections of mercury salicylate, from one grain to one and one-quarter grains. A Wassermann examination made one month later was still strongly positive.

Physician, infected April, 1909. Injections from May to September, 1910, of mercury bichloride, one-quarter grain, three times a week, alternating with salicylate of mercury, from three-quarters to one and a half grains, every five to seven days. His Wassermann reaction was still positive after four months of intensive treatment. After one month's rest this was followed by eighteen injections of salicylate, one and a half grains to two grains, and his Wassermann reaction became + in March, 1910. Another series of injections was begun and with internal treatment and periods of rest continued to the beginning of 1911. While under medication or as soon as discontinued he has presented mucous membrane and cutaneous relapses and has never given a clean negative reaction in the two years he has been treated.

In another patient, whose infection dates back to November, 1908, who had had almost continuous treatment by mouth and by injections, the serum reaction was still strongly positive March 1, 1911. He had also recurrences several times during this period.

It can therefore be stated pretty certainly that salvarsan materially shortens the time in which a negative Wassermann reaction can be obtained, and the statements that it is only a symptomatic remedy are not true, for its effect on the spirochætæ and the complement fixing powers of the blood can only be interpreted as a specific action.

Abundant evidence is at hand from the work done during the past year that the clinical symptoms as well as the Wassermann reaction yield more rapidly to the drug alone or to a combination with mercury than to mercury alone. It must be remembered that all of the earlier experiments with the drug were made with single doses, and that only in the past few months has the more intensive method been employed. We are hardly yet in a position to make any positive assertions regarding the time required to influence the reaction. It has also been demonstrated that the drug is more potent in bringing about a change in the serological reaction in the early stage of the disease than at any other time and it is just here that a note of warning should perhaps be sounded. Even though all clinical manifestations disappear at this stage, the patient should be kept under continuous observation for at least a year and the treatment controlled by repeated Wassermann examinations. Otherwise, a feeling of false security may be engendered and patients may regard themselves cured, only later on to have a relapse on the part of the nervous system. I am often consulted by patients who had acquired the infection several years before, in whom the Wassermann reaction is strongly positive, but who are without other manifestations of the disease. Such patients desire to take the treatment for the purpose of insuring themselves against relapses. Are we justified here in administering the drug or in promising the patient that the subsequent treatment will be materially shortened? No matter what treatment is employed in these cases the Wassermann reaction is very difficult to influence. From statistics which have been gathered as the result of autopsies on patients with latent spyhilis and a positive Wassermann reaction, it would seem that a large percentage have visceral lesions. Just as intensive treatment, therefore, is indicated in these cases as in those in the early period of the infection, and while we cannot promise that one or even two injections of salvarsan will materially modify the serum reaction, it may render the disease more amenable to mercurial and iodide treatment.

It has been stated that mercury will accomplish everything that salvarsan will. From my own experience I can very positively deny this assertion, for I have repeatedly seen cases of malignant syphilis actively treated by mercury in the most approved way by inunctions and injections, with and without potassium iodide, and the condition has gone from bad to worse; the patients lost constantly in weight, in some cases an elevated temperature developed, and lesions continued to appear. To counterbalance this, I have noted, a few days after the administration of salvarsan, a normal temperature, involution of the lesions, and within two weeks a decided increase in weight. This is not an isolated example of what salvarsan will do in malignant syphilis, but is one of a number of instances which demonstrated to my mind at least that the more severe the syphilitic process the more striking are the effects of this drug. The following cases serve as illustrations:

N., aged twenty-four years; chancre in October, 1909, secondaries, December, 1909. In May, 1910, extensive rupial lesions of the face and arms. His treatment up to that time had been mercury in pill form. On May 19th, 0.3 gramme salvarsan was administered intragluteally. In thirty-nine days his lesions were completely healed and he gained in weight. He has had no recurrence and no further treatment up to this time. His serum reaction is also negative.

T., aged twenty-nine years, initial lesion March, 1909. Within six weeks extensive ulceration of the throat with loss of uvula. In spite of mercurial and iodide medication during the ensuing year, new lesions developed, and when I saw him in September, last year, he was decidedly cachectic, presented multiple periosteal lesions, an ulcer over the bridge of the nose, and albuminuria. On September 15th, I gave him a subcutaneous injection of 0.4 gramme neutral suspension. At the end of a month his active lesions were healed, his urine was free from albumin, and he had gained sixteen pounds in weight. Notwithstanding this remarkable improvement new periosteal lesions of one hand and ankle, and a subcutaneous gumma developed. This relapse yielded to a second injection given by Dr. Swift at the Rockefeller

Hospital. His serum reaction also became negative, but later was positive again and he was given a third injection. He is now in excellent health, weighs one hundred and forty pounds, and is able to attend to his business.

D., aged twenty-one years. Infection dated back fifteen months, during which time he was constantly under treatment. When he was referred to me, he was extremely cachectic and suffering from disseminated rupial syphilides. On January 6th, this year, he received 0.5 gramme salvarsan alkaline solution, and both his general and local condition were influenced within a week. His reaction being still positive, February 15th, his physician gave him an intravenous injection of 0.5 gramme. In a letter, dated April 13th, I am informed that the patient continues in good health with absolutely no evidence of the disease excepting scars from former lesions.

W., aged twenty-six years. Chancre, October, 1908, with secondaries four weeks later. For two years he had been running a temperature of from 100° F. to 101° F. In addition he had an orchitis of one and a half years' duration, a periostitis of the right leg, and serpiginous syphilides of the face and back. He was very susceptible to both mercury and iodide, ingestion of the latter producing œdema of the tongue. On March 3d, I administered 0.5 gramme salvarsan intravenously, and three days later 0.4 gramme in an oil suspension. The result of this treatment was a normal temperature in a few days and a gain of thirteen pounds in two weeks. Under date of April 12th his physician writes that the improvement continues; all his clinical symptoms have disappeared; his orchitis is about one-third as large, and he now weighs one hundred and forty pounds as against one hundred and twenty-one before treatment. Complement fixation, April 13th, *i. e.*, six weeks after treatment, still ++.

I am more and more surprised to note the improvement in body nutrition which takes place in many of the patients treated. The marked mental depression so often found in the early stage of the specific infection and the feeling of hopelessness wholly disappear; their countenance changes and they begin to take on weight. In several patients a gain of twenty pounds was recorded in four weeks.

Recently I had a letter from a physician whom I treated the latter part of September, 1910, with an intramuscular injection of 0.5 gramme. His infection was two years old, he had been unable to obtain any benefit from the usual remedies, was markedly cachectic, and incapacitated for work. Now he writes that he has had no clinical or serological evidence of the disease his gain in weight and strength has continued, and he is able to practice all the time, riding and doing hard work. Another physician, with early secondary symptoms and extreme mental depression, showed within a week a decided improvement not only in his physical but in his psychic condition. He has just reported that he has had no relapse, is able to do his work, and has regained his normal weight. His serum reaction at the end of four months continued positive.

Of the effect of the remedy on visceral disease, my own observations have been limited to the treatment of luetic nephritis. In all but two cases the urine was free from albumin within a few days of the administration of the drug. In one it disappeared for several days, then reappeared and persisted. The patient was given a second injection with a similar result; for a few days the urine was free, but now contains albumin again to the amount of three-fourths gramme (Esbach), one-half the quantity before treatment. The other case was one of marked ascites with albumin four and a half grammes (Esbach). Although the patient materially improved and the albumin was reduced to one gramme, the condition remained stationary, and a second injection is under advisement.

An orchitis, in the patient with malignant syphilis cited before, was reduced to about one-third in five weeks.

I have been able to make some comparisons on the use of salvarsan with mercury and potassium iodide in certain specific affections of the nervous system, which would seem to give the drug a place in the therapeutics of many of these seemingly hopeless cases. Its influence is especially gratifying in severe headaches which have been treated for a long time with the old remedies without any material benefit. In a number of these a decided amelioration was produced by a single injection or a combination of salvarsan and mercury.

In a patient with spastic paralysis of the Erb type, a marked improvement in his general condition and gait took place after an injection of 0.6 gramme alkaline solution. A second intravenous injection, about ten weeks later, has as yet exercised no additional influence either on his condition or serum reaction.

On January 11th, I treated a patient, who for the past ten years had been subject to epileptiform attacks, with 0.4 gramme intramuscularly, followed a week later by the same dose intravenously. He has had no seizures since, is in good health and able to pursue his occupation. His serum reaction is also negative.

It may be of interest here to add a note to the history previously reported of a professional man who was suffering from symptoms pointing to an endarteritis of the base of the brain involving both pyramidal tracts and the sympathetic. He was treated on August 31st with 0.45 gramme, on October 16th with 0.5 gramme, and since that time his physician has administered a third dose. Recovery has steadily taken place during the past seven months, his health is now good, and he is able to discharge the duties connected with his profession.

Except in isolated cases the treatment of tabes has not been very encouraging, I have, however,

been able to draw some rather definite conclusions as to the indications for the use of the drug in this condition. Patients with tabes who come to treatment may be divided into two groups: Those of years' standing which have been treated vigorously with mercury and potassium iodide whose Wassermann reaction is silghtly positive or negative, and whose cerebrospinal fluid contains no increase or a very slight one of lymphocytes. In these cases the administration of salvarsan accomplishes little or nothing. In the other class, with a strongly positive reaction, marked lymphocytosis of the spinal fluid, and globulin increase, characteristic pains with gastric or other crises, and little or no impairment of the gait, the probabilities of relieving the pain or arresting the progress of the disease seem to me to justify the use of the remedy. In several patients of this latter class there has been an improvement in the pains, the gastric crises, and their general well being. Ehrlich advises, that in these cases the drug be given in small doses, repeated at certain definite intervals. Although he distinctly warns against using it in advanced degenerative disease of the nervous system, I have personally seen no harm to advanced tabetics to whom doses of from 0.4 gramme to 0.6 gramme have been given. The only unpleasant effect noted has been an aggravation of the neuralgic pains, sometimes persisting for a week or ten days.

As an illustration of the benefit that may ensue from the use of salvarsan in certain types of tabes, I cite the following cases:

Mr. X., aged forty-nine years, infection in 1884, for which he had irregular and insufficient treatment. Pains in his legs began twelve years ago. When seen in November examination showed absence of left knee jerk, right responding slightly; pupils almost Argyll Robertson condition; gait very little impaired; pains marked; Wassermann reaction ++. On December 12th he received 0.6 gramme salvarsan intramuscularly. A diary kept by the patient for thirty-six days after he returned home reports five bad days, eleven with some pain, and twenty free from pain. His serum reaction is now negative, and he states that he is feeling better and suffers from only occasional twinges of pain.

Mr. Y. Primary and secondaries two and a half years ago. Last August a third nerve paresis, double vision, and unequal pupils developed; both respond to light and accommodation. His gait became impaired, especially in going up and down stairs; his knee jerks were weak, sexual power lessened and bladder insufficient. Notwithstanding thirty injections of mercury bichloride, from one-third to one-half grain, every other day, there was little or no change in his condition. After the administration of salvarsan a marked improvement took place in the symptoms enumerated. At the end of a month his knee jerks were practically normal, his double vision disappeared, he gained twenty pounds in weight, and stated that his mind was much clearer, the depression he had suffered from was gone, and his business energy had returned.

I have also administered the drug in several cases in the early stage of paresis with but indifferent results, excepting in the following case:

This patient, aged thirty-five years, contracted syphilis fifteen years ago, for which he was treated for three years. Fourteen years ago an iritis of the left eye developed, the adhesions of which remain. He had no further symptoms until four years ago when there developed bladder hesitation and cystitis, partial paralysis of the rectum, and crises. During the past few months he manifested marked mental symptoms. He was a partner in a large mercantile establishment and caused his associates so much annoyance by his extravagant conduct of the business that they insisted on his retirement from the firm. On his own initiative he increased the wages of his employees twenty-five per cent., and in ordering supplies for the house he would purchase ten times the quantity required. In other words, this patient had every evidence of the stage of exaltation. On February 11th, he was treated with 0.25 gramme, followed, February 20th, by 0.4 gramme, and March 31st by 0.4 gramme, all intravenously. The third injection gave rise to a sharp reaction four hours after its administration, with a chill, vomiting, and a temperature of 101° F.; this subsided and thirty-six hours after he was well, but thirty-six hours later still a second reaction developed with shooting pains in his legs and a temperature of 100° F. This passed over in a day and since that time he has improved steadily. His knee jerks are much less exaggerated, his bladder now has only 100 c.c. of residual urine, and his mind is as clear as it ever was.

Of the 175 cases treated, I have noted six recurrences, all after a single dose. They were periosteal lesions in the case of malignant syphilis, mucous membrane lesions in an alcoholic, a palmar syphilide, a plantar syphilide, an optic neuritis, and an iritis.

In the case of malignant syphilis, in spite of relapse, it is not an exaggeration to say that the patient owes his life to the remedy. His recurrence took place one month after a subcutaneous injection of 0.5 gramme neutral suspension, but yielded to a second injection of the alkaline solution.

The patient with the optic neuritis was a physician treated for a digital lesion and secondary eruption on October 7th, with 0.6 gramme neutral suspension. Prompt recession of the lesions took place, but the serum remained strongly positive. About six weeks after treatment an optic neuritis of one eye developed. This at the last report was yeilding to mercury.

The case of iritis was in a young man whose infection dated back two months and who at the time of treatment presented a generalized macu-

lar eruption. He was injected with 0.5 gramme alkaline solution in the lumbar muscles on November 8th. About six weeks later an iritis developed. This cleared up entirely under injections of mercury and the patient has had no further trouble.

In the patient with palmar syphilides the eruption had been of one year's duration. On May 16th he received 0.3 gramme alkaline solution and at the end of a month his palms were free. Five months later a circinate lesion appeared in one palm and persisted up to the time of his second injection, on January 12th, of 0.6 gramme alkaline solution. He now has no clinical evidence of the disease and his serum reaction has been reduced to a single plus.

These scaling lesions of the palm and sole show a greater amenability to salvarsan than to the ordinary treatment, and the relapses are not as extensive as after mercury.

From the literature recording recurrences after salvarsan treatment the impression is gained that they are particularly prone to affect the eye or cranial nerves. In fact, a number of observers believe that a neurotropic action on the part of the drug could not altogether be eliminated. Further study of these causes has in the great majority confirmed their purely luetic nature, but whether this predilection is greater after salvarsan or mercurial treatment must for the moment be left *sub judice*. Ehrlich explained the apparent increase on the ground that mercury seldom produces such an energetic sterilization as salvarsan and offers the plausible opinion that these focal recurrences are the result of a few remaining spirochætæ which have escaped sterilization with the main mass and become encapsulated in the narrow bony canals, where slight lesions produce marked clinical symptoms.

He made a careful analysis of the ocular cases and came to the conclusion that in only one might the drug be incriminated, namely, the young woman treated in Finger's clinic, who, prior to the salvarsan therapy, had received thirty injections of arsacetin and sixty-nine of enesol. In this case he thought it highly probable that the optic nerves were primarily injured by the earlier arsenical treatment or that the arsenic receptors of the tissue had acquired an increased avidity, rendering it susceptible to the later treatment.

Benario has recently published his results of a comparative study of 126 nerve recurrences after salvarsan treatment. Of this number 118 patients were in the early stage of their infection, viz., five in the primary, 22 primary and secondary, and 91 in the secondary stage. He found that the individual cranial nerves were affected 158 times, the order of frequency being the following: Acoustic 68; optic 41; facial 25; oculomotor 12; trochlearis, trigeminal, and abducens each four times. In relation to the time of treatment, 111 cases, or 96.6 per cent., occurred within four months after its administration. In regard to the date of infection 88 per cent. of the cases occurred within the first nine months. As arguments against the toxic nature of these lesions he advances the long interval intervening between their appearance and the treatment; their inflammatory rather than atrophic nature; their occurrence almost without exception in certain periods of the disease; their absence as far as known in nonluetic infections after this treatment, their development after minimum doses and cure by further specific therapy, especially salvarsan. The more intensive treatment either by repetition of intravenous doses or combination with mercury as employed by Schreiber, Neisser, Gennerich, and others has seemed to insure against these relapses.

Up to the present I have noted only one nerve recurrence after the use of salvarsan, namely, a unilateral optic neuritis in a physician, previously cited, and am convinced that it was due to a specific process. It occurred six weeks after treatment and four months after infection, was an acute one-sided inflammation, and was influenced by further anti-syphilitic medication. In November, 1910, I treated a patient in whom an acute optic neuritis had developed after nine months' treatment with bichloride injections, with salvarsan, 0.6 gramme alkaline solution. In this case a cure resulted, the last ophthalmological report by Dr. Holzapfel, a few days ago, reading: Vision 20/30, hæmorrhages completely absorbed, fundus normal in every respect.

I have also treated several cases of choroiditis with acute optic neuritis coming on in the early stage of the disease with very decided benefit. It seems to me that a sharp distinction should be drawn between those cases of acute optic neuritis of undoubted specific origin and the primary degenerative forms. We have here an analogy with the two types of tabes previously described, in one of which we have inflammatory symptoms and in the other a pure degeneration. In these degenerative forms of the optic nerve and the posterior columns of the cord it seems to me we do harm to out patients by giving this drug or intensive mercurial treatment which is so often employed, both of these therapeutic measures hastening the process.

In a case of interstitial keratitis involving one eye, of four weeks' duration, in a child eight years old, I administered, on March 15th, 0.2 gramme oil suspension, on March 25th 0.3 gramme alkaline solution. This patient was kindly referred to me by Dr. Colman W. Cutler, who said that a result had been obtained in a few weeks which could not have been hoped for under six months with the ordinary drugs; all of the ciliary congestion disappeared and the corneal opacity was clearing. On April 7th, however, a similar condition developed in the other eye but of a much less degree; this was controlled by a third injection of 0.2 gramme oil suspension.

As an illustration of the fallacy of the *post hoc*

propter hoc method of reasoning and the tendency to attribute all of these nerve recurrences to salvarsan, the following cases are cited, one of which developed after the administration of salvarsan and cleared up after a second dose, the other two occurring in patients in the early stage of syphilis, in the one treated with mercury and the other untreated.

1. A physician whom I treated on November 23d for an infection acquired in September, 1910, was attacked about February 1, 1911, with impairment of hearing in the right ear, accompanied by a blowing sound and pain along the trifacial nerve, both very severe at times and worse at night. Believing he was suffering from a recurrence he began a course of inunctions, but without much effect. A rhinologist whom he consulted diagnosticated the condition as a sinusitis and advised the use of an adrenalin spray. He obtained relief from the latter but also took another injection of salvarsan, and the improvement which had set in at the time of administration continued until now he is entirely free from symptoms referable to his trouble.

2. I have at present another physician under my care, in whom in the fifth month of his infection labyrinthine disease developed, with headache, deafness, vertigo, and a tendency to fall to the right—this recurrence after mercurial and enesol treatment. Under more active mercurial medication and large doses of potassium iodide his symptoms disappeared and his hearing improved.

3. The third case has just come into my service during the past week. The patient gives no history of initial lesion, but in January of this year an eruption developed which has persisted to the present time, and consists of a grouped follicular syphilide. He also has a severe, pharyngitis. About the middle of March headache, tinnitus, and dizziness developed, and when he entered the hospital, April 10th, he presented marked symptoms pointing to involvement of the labyrinth.

According to West, five per cent. of the individuals infected with syphilis suffer from labyrinthine disease between the fifth and twelfth months. Politzer quotes a much higher proportion, namely, from seven to forty-eight per cent. Of sixty-five cases of auditory nerve involvement collected by Meyer, it was found that twenty per cent. occurred from the third to the tenth week after appearance of the primary lesion.

In my opinion the intramuscular injection of the alkaline solution brings about as quick a resolution of the lesions as the intravenous method; probably in the later stage of the disease it is more efficacious than the latter, but the intense pain produced by it makes one hesitate about recommending it. It would seem to be better to give two, three, or even more intravenous injections than to subject the patient to the pain and danger of arsenic necrosis from intramuscular use of the drug.

Conclusions.

In the primary and secondary stages of the disease two doses of salvarsan combined with active mercurial medication, materially shorten the duration of the disease. The remedy certainly limits the contagious period of the infection, and in malignant cases its effects are nothing short of miraculous. It produces a rapid healing of the existing lesions, increases the patient's appetite, and improves the body nutrition. It is possible that in such cases we have a different strain of organisms which are more easily influenced by salvarsan than by mercury or potassium iodide. It is rather paradoxical, but it is nevertheless true, that the more serious the case, the more cachectic the individual, the more rapid are the effects of salvarsan. From a study of this disease extending over a period of thirty years I can say without any exaggeration that I have seen more rapid and brilliant results from salvarsan in this class of cases than I have ever seen from the administration of the classical drugs.

Proper Method of Treatment.

To a patient with lues presenting himself to me in the primary or early secondary stage I would unhesitatingly recommend the drug if no contraindications existed for its employment. As the result of experience I now recommend the following procedure: An intravenous injection followed by a course of mercurial inunctions or injections over a period of from four to six weeks. At the expiration of this interval a second intravenous injection of salvarsan and a subsequent course of mercury. At the end of this treatment a rest of a month and a Wassermann reaction. If it is negative the patient is observed for one or two months, and a second serum reaction is made. As long as it continues negative, no treatment is indicated. Should it become positive a third intravenous injection of salvarsan supplemented by a course of mercury would be the best procedure to adopt. It seems to me that this method offers to the patient a far better chance of a rapid and permanent cure than the use of mercury alone. Should the reaction become negative, after a single injection of salvarsan, it may be well to act on the advice of Ehrlich and repeat the injection, because of the possibility of incomplete sterilization with the encapsulation of a few spirochætæ in the bony canals and the danger of recurrence in the nerves of special sense.

In the later secondary stages of the disease, as well as in its latent period with a positive Wassermann, I know of no better *modus procedendi* than the one which has been outlined. It must ever be emphasized that the majority of patients with this infection are inefficiently treated and that their treatment is not sufficiently

controlled serologically. As long as the reaction continues positive, the patient is in danger of relapse. The aim of all treatment is to bring about a clean and clear negative Wassermann reaction which continues so for at least a year.

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THE ACTION OF SALVARSAN UPON THE WASSERMANN REACTION.*

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DURING the past year there has certainly been an astonishing amount of investigation upon the clinical action of salvarsan. As a result we now have a fairly good idea as to what the new remedy can or cannot accomplish from a clinical standpoint. We know that the drug produces brilliant symptomatic results and we also know that relapses occur with more or less frequency. From the proportion of such relapses we, of course, can form an opinion as to the permanence of the action of salvarsan in syphilis. To judge, however, of its effect in the latent stages of the disease, it is necessary to depend upon successive Wassermann tests, carried out over a considerable period of time.

Although the literature of salvarsan is already very voluminous it contains as yet comparatively few reports of value relating to the Wassermann reaction. This is probably due to the short length of time during which most of the cases have been observed. The discrepancies in the various reports are very great and are due largely to the difference in the number and kind of injection and to the stage of the disease in which the injections were given. The percentage of negative reactions obtained by different observers vary from over 90 per cent. to 5 per cent. or even less, as shown in the following reports:

In fifty-two cases that were serologically followed for fifty days or more, Schreiber and Hoppe[1] found that the Wassermann reaction changed from a positive to a negative in 92.3 per cent. In most of the cases the reaction became negative at the end of fourteen days. Neisser and Kuznitzky[2] found the reaction changed in 44 per cent. of one hundred cases examined, occurring generally twenty to thirty days after injection. Of twenty-seven cases reported by Issac,[3] only one became negative. Nearly all remained positive in spite of the disappearance of clinical symptoms. In twenty-seven cases of Braendle and Clingestein,[4] only one changed from positive to negative. Lange,[5] who examined Wechselmann's cases, reports that 57 per cent. of two hundred and sixty-eight cases became negative. In the strongly positive cases the change occurred on an average from four to five weeks, while in the weak cases it took only eight days. Stern[6] gives 50 per cent. of negative reactions occurring in four to six weeks. MacRae,[7] who examined Fordyce's cases, obtained seven negative reactions in fifty-four cases. In nine cases the reaction was modified. In forty-two cases (males) reported by Lesser,[8] fifteen became negative on an average of thirty-seven days. In twenty-four cases (females) only two became negative. Géronne[9] examined one hundred and ninety-three cases and found that less than 50 per cent. became negative. Plaut[10] found two negative reactions in forty-one cases after six to eight weeks. Scholtz, Salzberger and Beck[11] report twenty-one negative reactions in eighty cases. Pick[12] found that the change from positive to negative took place in the majority of his cases (one hundred and thirty-eight) in four weeks, the shortest time being twelve days and the longest seven weeks. In twenty-seven cases of Loeb,[13] twelve became negative, of which two again became positive. Goldenberg and Kaliski[14] found that only three out of thirty-nine cases became negative, of which two again became positive. Freund[15] obtained fourteen negative reactions in forty-three cases. From an experience of eighty-three cases treated by the intravenous method, Favento[16] reports that the reaction remained positive in the majority of cases although of a lessened intensity. In fifty-four cases followed by Von Marchalkó[17] a complete negative reaction was only obtained a few times. Swift[18] reports the result of forty-two cases, some of whom had been treated by the intramuscular and others by the intravenous method. His results show an advantage on the side of the intramuscular method. He states (personal communication) that since the time of writing the disparity in favor of the intramuscular injection has lessened. In a splendid work involving great labor and care, Noguchi[19] and his assistant, Brenfonbrenner, examined quantitatively one hundred and two cases at frequent intervals. The reaction became negative in 33.7 per cent. of his total cases. He found the best results to have followed the intravenous method of injection.

From the observations above quoted it can be seen how difficult it is at the present time to form a definite opinion as to the action of salvarsan upon the Wassermann reaction. In the majority of the reports the results were obtained by a single injection only of the drug and mostly by the subcutaneous or intramuscular methods. In general the results of one injection whether given by intravenous or intramuscular methods cannot be said to be entirely satisfactory from the serological standpoint. According to Spiethoff[20] the action on the Wassermann reaction of a single

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large or moderate dose of salvarsan given in any stage of syphilis by either subcutaneous or intramuscular methods is "entirely unsatisfactory." He obtained the best results by the Iversen method of giving an intravenous followed in a few days by an intramuscular injection. In addition to this he gives a second intravenous injection at the end of four weeks. The superiority of the Iversen method was shown not only clinically but also serologically as during the observation period of four months no relapses occurred.

In a valuable communication, Gutmann [21] describes the results of triple intravenous injections. In twenty-seven cases he was able to follow the Wassermann reaction and found that in all except two cases it became entirely negative even after the second injection and in fourteen of these it changed in from two to six weeks. In nine cases the reaction did not become negative until the third injection had been given. The two failures occurred in cases of late syphilis.

According to Fritz Lesser [22] the best results upon the Wassermann reaction are obtained by giving repeated intramuscular injections of one decigram. He finds that in the majority of cases the reaction becomes negative after the sixth injection. He does not state, unfortunately, just what percentage of his cases became negative nor how frequently it was necessary to exceed six doses.

The action of the Wassermann reaction is probably due to a lessening in the amount of antibodies. That it is not due to any chemical change by which the serum would be rendered more hæmolytic has been shown by the experiments of Schwarz and Fleming.[23] The action is in general analogous to that of mercury. In a certain proportion of cases a positive reaction changes to a negative, generally about the sixth week, although the change may take place as early as the fourth day. (Schreiber and Hoppe, Noguchi.) In some of these cases the negative reaction later becomes positive. At times the positive remains so or for some unknown reason can even become more strongly positive (Lange, Von Marchalko, Freund). The negative reaction may take place by a regular and gradual decrease in strength or there may be at times marked oscillations the reaction being one week positive and the next negative or *vice versa*. According to Herxheimer such oscillations may be due to differences in absorption of the drug. In the table given by Zieler[24] such changes are shown in a marked degree. Finally the reaction may become entirely negative in the presence of a florid exanthem (Weiler[25]) and as in case (24) of my table.

The action on the Wassermann reaction in the different stages of the disease is closely analogous to mercury. According to Heuck and Jaffe[26] the change from positive to negative is quickest in the primary stage, is slower in secondary and malignant syphilis and still slower in the tertiary stage and in syphilis hereditaria tarda.

It has been found by a number of observers (Géronne, Reiss and Krzysztalowicz[27]) that equally good serological results can be obtained with smaller as with the larger doses usually employed. The good results of Lesser with intramuscular injections of small doses have already been mentioned. Isaac[28] also states that when using large doses for intramuscular injections he had obtained negative reactions rarely or only after long periods of time. When using small doses of one decigram the reaction had become negative in most cases after the sixth injection.

The effect upon the Wassermann reaction is very unfavorable compared to its effect upon the clinical symptoms. It is a common experience to see strong positive reactions continue for considerable periods of time in cases in which the clinical symptoms had disappeared with surprising rapidity.

The Wassermann reaction is finally not only of value in determining the permanence of the action of any anti-syphilitic remedy, but is also of great importance in deciding whether the disease can be aborted by early treatment. Finger[29] reports favorable results of early treatment in five cases of primary syphilis. The cases were negative before treatment. The reaction in each case was negative before treatment and remained so for periods of twelve weeks to six months, during which time no secondary manifestations had appeared. Similar results are reported by other observers.

My personal experience is derived from about ninety injections of salvarsan given in conjunction with my colleague, Dr. William B. Trimble. Most of the work has been done in the service of my father, Dr. George Henry Fox, at the New York Skin and Cancer Hospital. With several exceptions I have only included in my table the cases in which the blood examinations were made during a period of five weeks or more. In over half of the cases the blood was tested at the end of two to six months. In all of the thirty-four cases included in my table the Wassermann reaction was positive before the injection. In thirteen of the cases it became negative after treatment at intervals varying from three to eleven weeks. Of these cases eight had been treated with a single intramuscular injection, four with a single intravenous injection, and one by a combination of the two methods. While this would seem to show an advantage on the side of the intramuscular method of injection, the number of cases is too small from which to draw any general conclusions. In a later communication I hope to have a more complete material and to give a detailed comparison of the clinical and serological results that have been obtained in our cases.

Conclusions.

1. It is difficult at the present time to draw

any general conclusions owing to the great discrepancies in the results of various observers.

2. These discrepancies are partly due to the different methods of injection and to the different stage of the disease in which the injections were given.

3. The results of a single injection given by either the intravenous or intramuscular methods are as a rule rather unsatisfactory.

CASES TREATED WITH A SINGLE INJECTION.

Case.	* Stage.	Lesions.	Kind of injection.	Before treatment.	After one week.	Two weeks.	Three weeks.	Four weeks.	Five weeks.					
1	iii	Flat papular.	Subcutaneous.	++	++	++	++	+	+	8 weeks. <+	11 weeks. —	4 months. <+	4½ months. ++	6 months. ++
2	iii	Tuberculo-ulcerative.	,,	++	++					7 weeks. +	10 weeks. +	11 weeks. +	4½ months. +	6 months. ++
3	iii	Gumma.	,,	++	++	++				7 weeks. +	10 weeks. +			5½ months. ++
4	ii	Papulo-squamous.	,,	++	++	++	++			6 weeks. —	9 weeks. —	15 weeks. —		5½ months. —
5	ii	Laryngitis.	Intramuscular.	++	++	++			+	8 weeks. —		13 weeks. —		5 months. <<+
6	iii	Tubercular.	,,	++	++			++		8 weeks. <+				5 months. ++
7	iii	Gumma.	,,	++	++					6 weeks. +				10 weeks. <+
8	iii	Tubercular.	,,	++	++			++		6 weeks. ++				4 months. ++
9	iii	Gumma.	,,	++	++			<+						
10	ii	Maculo-papular.	,,	++				—		6 weeks. —				
11	ii	Latent.	,,	+					—					
12	ii	Gumma.	,,	+										
13	ii	Mucous patches.	Intravenous.	+		<+	<<+							2 months. —
14	ii	Latent.	,,	+	+		—							
15	iii	Tubercular.	,,	++	+	+	<<+	++						
16	ii	Miliary papular.	Intramuscular.	++		<+		—						
17	iii	Latent.	Intravenous.	<+										2 months <+
18	iii	Gumma.	,,	+						6 weeks. +				
19	iii	Tubercular.	,,	+	<+			—						
20	ii	Papulo-squamous.	Intramuscular.	+					—					
21	iii	Tuberculo-ulcerative.	Intravenous.	+				+						
22	i	Chancre.	Intramuscular.	++				—						
23	iii	Tuberculo-squamous.	,,	++				—						
24	ii	Macular.	Intravenous.	++	—									
25	iii	Periostitis.	Intramuscular.	<+				<<+		6 weeks. —				
26	ii	Macular.	,,	++		<<+			<<+	6 weeks. <<+				
27	iii	Recent hemiplegia.	Intravenous.	+		++		+						

* i = Primary.
ii = Secondary.
iii = Tertiary.

++ = Strong positive. + = Positive. <+ = Weak positive. <<+ = Faint positive.

CASES TREATED WITH TWO OR MORE INJECTIONS.

Case.	Stage.	Lesions.	Kind of injection.	Before treatment.	After one week.	Two weeks.	Three weeks.	Four weeks.	Five weeks.			Total period under treatment.
28	ii	Pustulo-crustaceous malignant.	Intramuscular.	+.+		++		<+		6 weeks. +	8 weeks. ++	
28	ii	Second injection.	,,		++		++	++				
28	ii	Third injection.	Intravenous.			++	<+		<<+			
28	ii	Fourth injection.	Intramuscular.				<+					6 months. <<+
29	ii	Macular.	,,	++	++	++		++		10 weeks. +	11 weeks. ++	
29	ii	Second injection.	,,				+			3 months. ++		5½ months. ++
30	ii	Papular.	,,	++	++	++	++	+	+	6 weeks. +	9 weeks. —	
30	ii	Second injection.	Intravenous.				+					4 months. +
31	iii	Gummatous ulceration.	Intramuscular.	+	+	<+			—			
31	iii	Second injection.	,,						—	3 months. —		5 months. —
32	iii	Gummatous ulceration.	,,	++	++			++		7 weeks. ++		
32	iii	,, ,,	,,		+							2½ months. +
33	ii	Flat papular.	,,	+	<<+				<<+			
33	ii	Second injection.	Intravenous.		<<+			<<+	<<+	6 weeks. <<+		2 months. <<+
34	ii	Pustulo-crustaceous.	Intramuscular.	++			+		<<+			
34	ii	Second injection.	Intravenous.		+		+		<+			4 months. +

4. Repeated injections seem to have given better results and offer a more hopeful outlook for the future.

5. The action of salvarsan upon the Wassermann reaction is in general analogous to that of mercury.

6. The effect upon the Wassermann reaction is much less favorable than upon the clinical manifestations of syphilis.

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A FEW PLAIN TRUTHS ABOUT ARSENO-BENZOL.*

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THE title of this paper was possibly more timely a few months ago, when I was first asked to take part in this symposium. The uncritical wave of enthusiasm for the new proprietary preparation was then at its height; the therapeutic achievements of four centuries were apparently forgotten; the chorus of "marvelous" arose from all sides, and with most insistence from non-expert quarters; and the millennium in syphilo-therapy seemed to have arrived. Recognized leaders proclaimed to the profession, and unfortunately to the public also, that syphilis was conquered; that it would shortly disappear from among mankind; and that our medical children would know it only from the text-books. The apothegm "he who runs may read" was improved into "he who runs may write"; and no running seemed too fast for these knights of the pen. Yet a little reticence in publicity, a little proper observation, should have shown unprejudiced observers the truth that, valuable as the new remedy may be in certain cases, important as it is as an additional weapon to fight the luetic infection, it absolutely does not accomplish the marvels that were attributed to it. The conclusions that we reached in the City Hospital last fall from the careful and prolonged study of some thirty hospital cases were at that time inexplicably at variance with the statements that abounded in the medical and lay press; yet they are now practically accepted by those best qualified to pass upon them. Unfortunately the marvelous tale attracts attention, is spread broadcast, and remains; whilst the sober second sense conclusion is prone to pass unnoticed or not be proclaimed at all.

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Within the limits of this symposium I must restrict myself to a bald statement of the results of my study of arseno-benzol. I shall embody them in a series of propositions which I think can be sustained.

1. Arseno-benzol does not "cure" syphilis any more than mercury does, and perhaps less than mercury does. This is true of one or two doses of the new drug, the effect of which is comparable to that of a few mercurial injections. It does not "sterilize" the body.

2. Arseno-benzol is a powerful symptomatic remedy for the luetic phenomena, in some cases acting quicker and more vigorously than mercury, in others being equal to the older drug in therapeutic action, and in still others being ineffective.

3. Symptoms of persisting infection, wrongly called "relapses," appear rather more quickly after one or two arseno-benzol injections than they do in the course of an effective mercurial medication. This is to be expected when it is understood that complete sterilization with one or two injections is impossible. Long continued action is required, as the mercurial medication attempts to effect.

4. Cases recently infected, in which the symptoms may be expected to appear in rapid succession, are the ones by which the efficacy of the arseno-benzol must be estimated. Isolated tertiary phenomena, appearing after long intervals of apparent health, may, when healed, be followed by symptomless intervals of indefinite length under any treatment, under none at all. No conclusions as to the lasting effects of the new remedy can be drawn from them.

5. Since complete sterilization of the body cannot be effected by arseno-benzol, the intravenous administration of the drug, by means of which the system is subjected to the very fugacious action of a large amount of the arsenic, does not seem to be indicated save in exceptional cases. Intramuscular injection, as more lasting, would seem to be preferable; and it is very possible that the future may teach us that the best results are to be attained by the administration of much smaller doses in prolonged courses, exactly as is done with mercury.

6. There are disadvantages and even dangers incidental to the arseno-benzol medication, concerning which we are still insufficiently informed; and we do not yet, and shall not for a long time know its ultimate effects. It is not therefore to be recommended to the profession at large for the general treatment of the luetic disease.

7. On the other hand we do possess a remedy which we know all about, which is of undoubted efficacy, and which does cure syphilis. Mercury is still the antisyphilitic for general use, and we cannot do without it. The best proof of this is the fact that the latest advice from quarters where the arseno-benzol has been longest and most extensively employed, and where the prejudice is all in its favor, is to use it first, and then to proceed to the regular and prolonged mercurial treatment as before.

8. Cases of syphilis recalcitrant to mercury, or with an idiosyncrasy against the drug do occur, but by no means with the frequency that recent reports would indicate. Inefficient medication or a possibly unconscious bias in favor of the newer treatment accounts for many of them.

9. Arseno-benzol, in my experience, has been specially efficacious in some cases of early syphilis of severe type, especially those showing ulcerative dermal lesions, mucus patches, and condylomata; and in some late and obstinate tertiary affections, such as palmar and plantar squamous lesions, leucoplakia syphilitica, gummatous infiltrations of the internal organs, etc. In most cases its symptomatic effect is equal to that of mercury; and like this latter drug, it sometimes fails entirely.

10. It is generally conceded that arseno-benzol is as useless as mercury for the syphilitic sequellæ after organic changes have occurred. It has not given results in late brain or spinal cord disease due to the infection.

11. With our present information I consider arseno-benzol indicated in the following classes of cases of the disease:

a. In early cases of specially severe type, where the disease manifestations are multiform, or follow each other with great rapidity, or do not seem controllable by efficient mercurial treatment.

b. In cases of persistent or recurring infective lesions like mucous patches, in which the danger to the patients surroundings must be minimized by the quickest possible removal of the infective foci.

c. In cases in which circumstances do not permit persistent and prolonged mercurial medication, as in travelers, prostitutes, etc.

d. In cases of late syphilis of especially obstinate or recurrent type.

e. In cases where immediate and most energetic action is required to save an organ or to prevent irreparable tissue damage.

f. In the rare cases where mercury does not act, or where it cannot be given.

12. Arseno-benzol does not seem to be indicated

a. In the ordinary run of cases of syphilis, on account of our ignorance of its permanent action on the disease, and of its dangers, and because we possess other harmless, perfectly efficient and well understood means of medication.

b. In cases that have lesions of the internal organs, more especially of the kidneys or of the eyes.

c. In cases suffering from the after effects of syphilitic processes when permanent organic changes have occurred.

In conclusion I may state my belief that we have in arseno-benzol a permanent addition to

our antiluetic armamentarium, and one that will enable us to cope more successfully than has heretofore been possible with certain phases of the infection; but that we have no more got a cure for syphilis, save in the sense and with the limitations that mercury is a cure, than we had before its introduction; and that the mercurial medication is required in every case no matter whether arseno-benzol has been used or not.

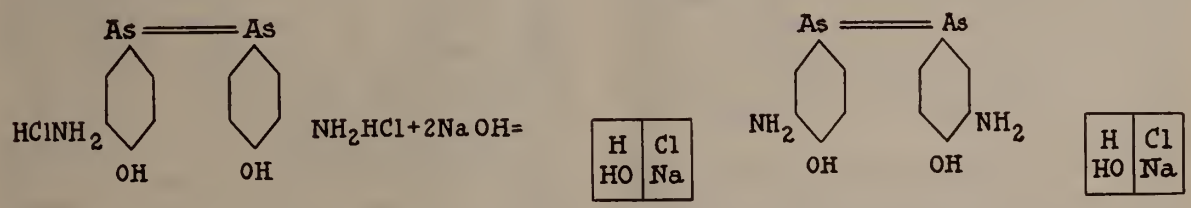
TECHNIQUE AND METHODS OF ADMINISTRATION OF SALVARSAN.*

By HOMER F. SWIFT, M.D.

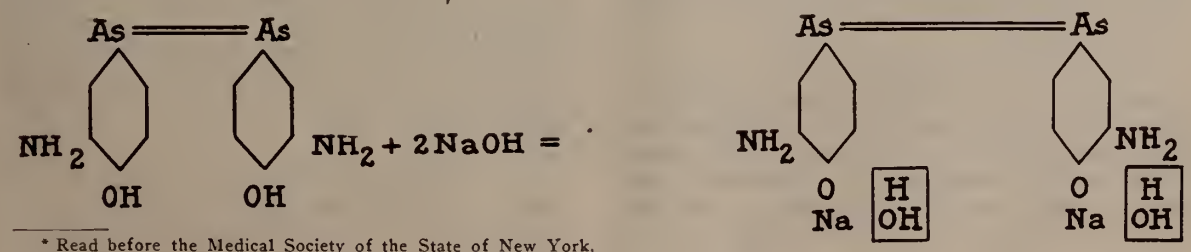
IN the year which has elapsed since the introduction of Salvarsan, many methods have been used in its administration. The object of some of these was to diminish the amount of pain incident to the intramuscular injection, others to increase the efficiency of its action, and others still to permit the treatment of ambulatory patients. The efficiency of action depends largely upon the mode of application, and it is the object of this paper to present briefly the different methods which have been used with their advantages and disadvantages.

Dioxydiamidoarsenobenzol is an insoluble preparation, quite easily oxidized. It is not dispensed in this form, but as the hydrochloric acid salt which is more stable and quite easily soluble in water. From this watery solution, either the neutral substance or the alkaline salt can be prepared. It is important to realize that only the acid and basic salts of Salvarsan are soluble in water and that the neutral substance is insoluble.

The reactions take place according to the following formulæ:



The water and sodium chloride are split off, leaving the neutral, insoluble substance. If two more sodium hydrate molecules are added, sodium is substituted in the place of the hydrogen of the hydroxyl group.



Again a soluble preparation is obtained, and in this form the drug is probably the most effective. Theoretically, it is possible, by adding the proper amount of sodium hydrate, to have a mono acid, neutral, mono—or disodium salt.

Methods of Preparation of Salvarsan for Injection.

Intramuscular or subcutaneous; alkaline solution: The early preparations of Salvarsan were quite difficultly soluble in water, so alcohol was used to bring it into solution, but the more recent methods of manufacturing have furnished a powder easily soluble in water.

Alt's method:[1] In a glass stoppered graduate of 50 cc. capacity in which are a number of glass pearls, put 10 cc. of hot water; then the powder. By vigorous shaking, a solution is obtained. After obtaining a complete solution, normal sodium hydrate is added in the proportion of 0.5 cc. for each 0.1 gm. of the Salvarsan, and again shaken. A clear, or at most only slightly opalescent, solution should result. It will be noted that when the sodium hydrate is first added, a thick gelatinous mass is formed which dissolves as more of the alkali is used. In our experience, more alkali is necessary than Alt recommends. It is practically impossible to obtain an absolutely transparent solution unless a great excess of the alkali is used. Such a strong alkaline solution injected into the muscles is more painful than with only a moderate amount of alkali. With intravenous injections, which require high dilution, it is necessary to add 0.7 cc. of normal sodium hydrate per 0.1 gm. Salvarsan, so we have adopted a similar proportion in preparing the intramuscular solutions. Alt makes the final amount up to 20 cc. and injects 10 cc. in each buttock.

A slight modification of this technique is to dissolve the powder by grinding with water in a small mortar, then add the alkali, and make the final volume up to only 8 or 10 cc. If this amount is divided into two portions, the bulk

* Read before the Medical Society of the State of New York, at Albany, April 18, 1911.

in each muscle is much less, with a corresponding diminution in the amount of pain.

Neutral suspensions: These were used the most extensively for some time. Their popularity was due to the freedom from pain for the first few days following the injection.

The Michaelis[2] procedure is to dissolve the powder in alcohol, make up to 15 cc. with water, add sufficient normal sodium hydrate to dissolve the precipitate which was first formed. After mixing with this solution three drops of ½ per cent. alcoholic solution of phenophthalein as an indicator, sufficient acetic acid is added to carry it just beyond the neutral point, after which just enough sodium hydrate is used to make the preparation exactly neutral. At this point, a fine yellow powder is obtained.

Wechselmann's[3] method is somewhat more simple. In a mortar, the powder is rubbed up directly with strong caustic soda solution until it is completely dissolved. The reaction is then brought back exactly to the neutral point by the slow addition of acetic acid. The suspension is centrifuged, the supernatant fluid drawn off, and the powder resuspended in normal saline.

Blaschko[4] obtained a neutral suspension by using the amount of sodium hydrate computed to exactly neutralize the hydrochloric acid in a given amount of the dihydrochloride. His method is practically the same as that given in the directions accompanying the ampoules of Salvarsan for preparing neutral suspensions. The powder is dissolved directly in the mixture of water and soda and made up to 8 or 10 cc. The reaction is tested with litmus paper, and hydrochloric acid or alkali added as necessary.

Citron and Mulzer[5] devised a still easier method for neutralization. The powder is placed in a 15 cc. syringe, and moistened with alcohol, then dissolved in 5 cc. of hot water. Then forty drops of a 10% suspension of calcium carbonate is now drawn into the syringe and the mixture well shaken. A fine neutral suspension results which is injected directly. This method has never gained very general favor.

The acid salt is used both as a watery solution and a suspension in oil. Acid solutions: Taege's[6] method is to mix the powder with a small amount of glycerine until a homogeneous paste is obtained. Then 5 or 6 cc. of hot water is added and the resulting acid solution injected intramuscularly. Duhot[7] dissolves the powder in 0.5 cc. methyl alcohol by grinding in a small glass mortar; then makes the volume up to 5 cc. with normal saline.

Oil Suspensions: Lately, the suspension in oil has become the most popular manner of administration. Kromayer[8] was the first to suggest this form. He grinds the powder with liquid parafine oil until a homogeneous suspension is obtained. The suspension is of such a strength that 1 cc. represents 0.1 gm. of the drug.

Lesser[9] employs oil of sweet almonds, claiming that absorption is more rapid than with mineral oil. He injects 0.1 gm. weekly for six weeks and is guided after that period by the Wassermann reaction.

Pollitzer[10] recommends iodopin as a vehicle because it is both sterile and a vegetable oil.

Passini[11] first made a neutral suspension after the formula of Wechselmann. He then suspended the resulting powder in a mixture of equal parts of adeps lanæ and liquid vaseline. He sealed this suspension in small glass syringes in which it was kept ready for use. Later he suspended the dihydrochloride directly in the oil.

Solution for intravenous injection: The alkaline solution is used almost exclusively for intravenous injections. We have followed a slight modification of Schreiber.[12] In a 300 cc. ground glass stoppered graduate, the powder is completely dissolved in 100 cc. of hot sterile distilled water. Then sufficient 4% sodium hydrate is added to completely dissolve the precipitate which is first formed upon the addition of the alkali. As a rule, 0.7 cc. of normal sodium hydrate per 0.1 gm. of Salvarsan is required. If some haziness persists with this amount of alkali, a few more drops will suffice to give a clear yellow solution which has the appearance of a watery solution of picric acid. Sufficient water is now added, so that each 50 cc. solution contains 0.1 gm. Salvarsan. Water is used in place of normal saline because it was frequently noted that upon the addition of saline, there was a floccing out of the Salvarsan, which it sometimes was impossible to redissolve with sodium hydrate. This inability to always obtain a clear solution with saline has been noted by many workers. While the solution with water is somewhat hypotonic, it is not hemolytic when mixed with blood serum and cells, and careful observations of the urine after its injection have failed to show any hemoglobinurea. Furthermore, in test tubes a mixture of alkaline sodium chloride solution of Salvarsan with blood serum gives a precipitate much sooner and in much higher dilution than a similar alkaline solution of Salvarsan dissolved in water.

An acid solution has been used intravenously, but it is attended with great danger. The acid solution may produce an acidosis with consequent death. Hering[13] from experiments on dogs and rabbits, has computed the toxic dose of the dihydrochloride as 0.68 gm. for a man weighing 70 kilos (150 lbs.). Auer[14] has found that the injections of the acid are much less toxic than Hering's figures indicate, if the dilution is higher. However this may be, there is a second danger. The addition of the dihydrochloride solution in any dilution to blood serum causes an immediate heavy precipitate which may lead to a fatal embolism.

Technique of Injection.

Intramuscular: The gluteal muscles have been most used for intramuscular injections.

The upper outer quadrant is the place of selection because in this region, there is less danger of involving the sciatic nerve in the necrosis, which always occurs after intramuscular injection. Another site is the extensor spinæ muscle in the lumbar region. Dr. Meltzer[15] has advocated the use of this region because absorption is more rapid, pain is less, and no large nerve trunks can be involved. His directions are to place the patient face downward on the bed, draw a line between the posterior superior iliac spines, select a point about half an inch above this line and one to one and one-half inches from the mid line. Insert the needle (which should be about three inches long) at right angle to the long axis of the body until it has passed through the dense lumbar aponeurosis, which can be easily felt. After the needle is well in the muscle, turn it parallel to the long axis of the body and towards the ribs, and insert it nearly to the base.

In making intramuscular injections, the needle should always be inserted empty and not attached to the syringe, so that if a blood vessel is punctured, blood will easily escape, in which case the needle must be withdrawn and reinserted. When the needle is properly placed, attach the syringe and inject slowly until the desired amount has been injected. Then detach the syringe and inject some saline solution to wash the Salvarsan all out of the needle. Withdraw the needle quickly, at the same time making pressure over the site of injection. It is important not to allow any of the Salvarsan to escape along the needle tract into the subcutaneous tissues, for such escape causes great pain and is liable to lead to subcutaneous necrosis.

The subcutaneous injection should not be used because of the slow absorption and the probability of the necrosis involving the skin and giving rise to a severe, long standing ulcer.

Intravenous: The intravenous injection may be carried out by either Schreiber's or the gravity method. In Schreiber's[12] method, a three way stop-cock and 20 cc. Luer syringe are used. The steps are: Clean the arm, place the end of the glass tubing in the jar of Salvarsan solution, fill the syringe with normal saline and inject until all of the rubber and glass tubing is free from air. The syringe should still contain about 10 cc. saline. Now place a rubber tourniquet on the arm to dilate the veins and insert the needle, which should have a short bevel, directly through the skin into one of the large veins at the bend of the elbow. When the blood flows freely, release the tourniquet, turn the stop-cock towards the needle, and with saline flowing from the tube and blood from the needle, make the connection and inject saline. If no subcutaneous edema occurs, one is certain that the needle is free in the lumen of the vein. If edema occurs, the needle must be withdrawn and inserted into another vein. After assuring one's self that the needle is properly placed, turn the stop-cock towards the jar of Salvarsan,* fill the syringe, turn the stop-cock towards the needle and inject. This is repeated until all of the Salvarsan is injected. Then pour about 50 cc. of saline into the jar and wash the Salvarsan out of the tubing, syringe and needle, in order not to leave a trace of Salvarsan along the needle tract. During the operation, if there is an escape of the solution into the subcutaneous tissues, the patient complains of a stinging pain, and the injection should be discontinued and another vein selected.

If the gravity method is employed, two burettes are necessary, one with saline and the other with Salvarsan, for it is very important to make a preliminary trial with saline before starting the Salvarsan into the vein. By only getting free escape of blood, we are not sure that the under wall of the vein has not been punctured, and injection of Salvarsan into the perivascular tissues will at times lead to painful if not more serious consequences.

Advantages and Disadvantages of the Various Methods.

The intravenous injection is probably the method of choice, because of its rapid and intensive action. It is also more rapidly eliminated in this form, but we have been unable to confirm the findings of others that the elimination in the urine was completed after four or five days. With the Marsh test, we have obtained marked reaction for arsenic in the urine twelve and fourteen days after a single intravenous injection of 0.5 gm. With intramuscular injections of the alkaline solution, arsenic could be detected after more than four weeks. If we wish to secure intensive action, the intravenous method certainly has great advantages and should always be used when rapid, clinical results are desired, such as early in the disease or when progressive lesions are present. Ehrlich still advocates this method and advises two or more injections a month apart, with intramuscular administration of mercury in the interval. After intravenous application, the by effects of the drug are usually manifested in the first six hours and consist of the febrile state accompanied by symptoms of gastro-intestinal irritation. Often there is no reaction.

For the patient's comfort, there is no comparison between the intravenous and the intramuscular injection, for as far as our experience indicates, there is no painless intramuscular injection. The alkaline solution is the most painful.

* It is desirable that an assistant should operate the syringe, allowing the operator to give his undivided attention to the needle and stop-cock.

With it the pain occurs immediately and is most intense in the first twenty-four hours, after which it diminishes, but often lasts several days to a week or more. The neutral suspension is the most difficult to prepare and has given the poorest clinical results. Ehrlich[16] thinks that the manipulation may change the form of the drug and has strongly advised that it should not be used. The fact that most of the insoluble injections were made subcutaneously would account partly for their poor action, for absorption from the subcutaneous tissues is much slower than from the muscles.

In the oil suspension, a large dose can be given in a small volume. It is consequently less painful and leads to less necrosis than if a large bulk is used. The preparation of an oil suspension is quite simple, and it can be used in ambulatory practice. The clinical results following its application have been satisfactory in the hands of many workers. Hence it is probably the method of choice for intramuscular injection. Some clinicians prepare a large amount of the oil suspension at one time, and keep it in this form for several days. This is not to be recommended because of the danger of oxidation of the Salvarsan when not kept in a vacuum. Only fresh suspensions should be injected. Both the oil and the neutral suspensions are often free from immediate pain, but as far as we have seen, practically all show a reaction on the third or fourth day, at which time sedatives and supporting dressings are often required.

After all forms of intramuscular injection, there is frequently a moderate rise of temperature and pulse rate, extending over several days. There is good evidence for the conclusion that every intramuscular injection leads to a necrosis of the muscle varying in extent with the amount of solution injected. The slower rate of absorption, with a consequent more prolonged action, is the greatest advantage of the intramuscular treatment. A combination of the intravenous and intramuscular methods gives both the rapid and prolonged effect. However, the storing up of arsenic in the muscle is not without danger, for in the prolonged exposure to the products of tissue necrosis, it is possible that the Salvarsan may be changed to some toxic form of arsenic. It is not without significance that the numerous relapses involving the optic, auditory and facial nerves and the one or two cases of optic atrophy occurred after intramuscular or subcutaneous injections.

In order to obtain both an extensive and prolonged reaction, we are now using a combination of a large dose and several small doses intravenously. The first treatment consists of 0.5 gm. and after that from 0.1 to 0.2 gm. are given intravenously every week for several weeks. These small doses are practically without by effect. In this way, we obtain the maximum effect from the drug, with the least inconvenience to the patient. The observation of Margulies[17] that the spirochæte do not become arsenic resistant and that no anaphylactic hypersensitiveness to arsenic is developed by the animal from repeated injections of Salvarsan, is sufficient experimental evidence to justify our proceeding along this line.

Only a lapse of considerable time can furnish us with exact indications as to the most efficient manner of administration. In the meantime, we are justified in trying various combinations, for in any case we can promise the patient benefit from the use of the new drug.

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THE BY-EFFECTS OF SALVARSAN.*

By JAMES MACFARLANE WINFIELD, M.D.

IN the great number of articles that have been published upon this newly discovered antisyphilitic, but cursory mention has been made of any of the actual or possible bad effects.

The brilliant symptomatic cures have overshadowed all else, and when any deleterious effect was observed it generally received but slight attention.

This dearth of adverse report is not at all surprising, and can easily be explained; the principle cause is that the drug, until late in December, 1910, was, as a rule, used only upon selected cases, the subjects were inmates of hospitals, and were in charge of men expert in the treatment of syphilis, another is that in the few cases where by-effects were observed a reasonable explanation, other than the toxic action of the arsenical compound could usually be found, consequently these incidental mentionings claimed but little attention.

It is the duty of every conscientious physician to lay before the profession both sides of a medical question, and it is especially so in

* Read before the Medical Society of the State of New York, at Albany, April 18, 1911.

this instance, where the subject has aroused such universal interest.

A thorough search of the literature discloses the fact, that from the very first certain by-effects from the use of salvarsan have been noticed, and now that the drug can be obtained by anyone who wishes to use it, it is inevitable that adverse reports will begin to accumulate, there is great danger that they will counterbalance the truly beneficial effects this drug has under certain circumstances, and it is to be feared that this remedy may eventually be relegated to the same obscurity that surrounds many other wonderful and useful medical discoveries.

The by-effects that have been observed may conveniently be classified as follows: Local, organic and general.

Local By-Effects.—The local, by-effects dependent upon the method of administration are pain, infiltration, sloughing, necrosis and the continuance of painful nodes at the site of the injection.

It is the common experience for the patient to suffer from pain in the region of the injection when the alkaline solution is used, no matter if placed intramuscularly or subcutaneously.

Necrosis and sloughing have been observed when the drug is administered in a neutral suspension, especially if it was injected subcutaneously.

Two observers claim to have found extensive necrosis at the point of every subcutaneous or intramuscular injection, irrespective of the method of preparing the drug for injection; they claim that all of the tissues, including the nerves were totally necrotic, one of them attempts to explain the occurrence of sciatica and other neurotic phenomena to this local necrotic action.

Two of my patients developed necrosis, in both the drug was given subcutaneously, one in neutral suspension and the other the alkaline solution.

In one the necroses developed two weeks after the injection, in the other nearly three months had elapsed before the first symptom appeared although a painless subcutaneous node had persisted from the first, in this patient the Wassermann test never became negative although all the active symptoms of syphilis had disappeared.

Painful nodes, continuing for weeks after the administration had been reported when the drug was given in a neutral suspension or mixed with oil.

The above by-effects can be averted if the salvarsan is given intravenously, but even here there are certain accidents that might occur, these generally can be avoided by giving careful attention to the technique.

Hausmann reports a case of thrombosis after intravenous infusion, which he claims was caused by infection: for upon resection of the vein a month after, streptococcus albus was cultivated from it.

Obliterating phlebitis has been observed, this can be prevented if the operator assures himself that the needle is in the vein, by the preliminary injection of salt solution, or by resorting to the simple surgical procedure of first cutting down upon the vein and then inserting the needle.

Another by-effect following intravenous infusion is a phlebitis, lymphangitis and infiltration of the tissues surrounding the vein and permanent muscular contraction as an end result. This should not happen if the technique of the procedure is carefully carried out, when it does occur it indicates that some of the salvarsan solution has leaked out of the vein into the surrounding tissue. This condition seems to be brought about as follows: When the needle is inserted it may happen that instead of arresting it in the calabre of the vein the operator plunges it directly through the vessel. It is possible that the operator may not be aware that this accident has occurred, for considerable blood may flow out of the needle, and the preliminary injection of salt solution does not visibly infiltrate the tissues, because the leaking rent is in the posterior wall of the vein. If this accident has occurred the moment the flow of the salvarsan solution is started the patient will complain of a sharp pain, radiating along the course of the vessel, if the operator heeds this warning, and stops the flow, removes and reintroduces the needle, the above chain of disagreeable by-effects can be avoided.

Another local by-effect is the swelling of the lymphatic glands in the neighborhood of the part injected.

The cutaneous by-effects are interesting and varied; the earliest one reported was by Herxheimer, now known as Herxheimer's reaction; this is an intensification of the syphilitic eruption, generally coming on shortly after the administration of the drug. I have seen this reaction only once, it occurred in a patient who received the salvarsan when the secondary macular eruption was at its height; ten days after receiving the remedy the secondaries had, practically disappeared, four days later, that is two weeks after the injection, an eruption reappeared, but instead of being the typically brownish red color of the syphilitic exanthem it consisted of red morbilliform macules, mostly distributed over the lower part of the trunk and the upper part of the thighs; the eruption was ushered in with a sharp rise of temperature.

Some observers have reported the occurrence of a scarletiforme eruption accompanied with sore throat, appearing from two

days to a week after the injection, and is claimed to be the direct outcome of the toxic action of the salvarsan. Icterus, accompanied with hepatic symptoms has been noted. The occurrence of herpes labilis and zoster is a fairly frequent observation. Zoster along the course of the sciatic nerve has been reported. In one of my cases where the injection was made low down in the buttock, the patient, almost immediately complained of neuralgia pains along the sciatic nerve, in a few days typical zoster vesicles made their appearance; the probabilities are that some of the salvarsan solution filtered down and caused an inflammation about the sciatic nerve just where it emerged from its bony exit; both the neuralgia and the zoster was unilateral, and confined to the side where the low injection was made.

Urticaria, pustules and papules have been reported by some.

Organic By-Effects.—Various by-effects affecting different organs of the body have been reported from time to time; pulmonary embolism has been noted a number of times, and appears to be the result of faulty technique. Hoffmann reports a case of central pneumonia that developed twenty-four hours after the intravenous injection, this was accompanied with profound cardiac and circulatory disturbances; while it cannot be proved that either the salvarsan itself or the technique was the causative factor of the pneumonia, the fact that this bad sequellæ has been observed should teach additional caution.

By-effects of salvarsan upon the renal organs have been observed hemorrhagic nephritis, hemæturia and retention of urine have been seen a number of times.

A case of hemorrhagic nephritis reported by Weiler showed no renal symptoms until several weeks after the injection of the drug.

One case of death reported; upon autopsy, the kidneys showed acute necrosis of the epithelium of the convoluted tubes.

The kidney and bladder by-effects are quite generally considered by the observers to be the direct result of the irritating action of the arsenical compound; possibly, however, upon organs so slightly diseased that a previous diagnosis had been impossible.

It would seem that the necessity for careful examination of the heart and circulatory system had been thoroughly impressed upon the minds of those who were about to use salvarsan, but there are many reports of disastrous and even fatal by-effects which would indicate that this precaution had not always been carried out.

Syncope, collapse and loss of consciousness following immediately after, or coming on during the first thirty-six hours after the administration have been reported a number of times, and with but few exceptions the cause of this alarming complication was found to be either myocarditis or a weak cardiac action.

Salvarsan does not appear to have an especial by-effect upon the gastro-intestinal tract.

Nausea is a fairly common occurrence, and is generally of physic origin, it usually comes on shortly after the administration of the remedy, although one observer reports a case where the vomiting did not begin until the third day and lasted for nearly a week.

Diarrhœa has been noticed in a few cases, but constipation is the rule; it usually begins the second day after the administration of the drug and lasts for one or two weeks.

Aside from the toxic effect upon the cranial nerves, as evidenced by the disorders of sight and hearing, salvarsan, under certain circumstances, seems to be the cause of a disturbance in the cerebro-spinal system.

If the brain or spinal cord is diseased, syphilitic or not, the action of salvarsan seems to cause swelling of the membranes and effusion of fluid, which in turn produces pressure.

Severe convulsions have followed the use of salvarsan, upon investigation it was found that these patients were suffering from cerebro-spinal syphilis.

A case of spinal syphilis was reported where the paralysis was increased after the injection; in one of syphilitic epilepsy the convulsions were aggravated and later hemaplegia developed.

At the request of a neurological colleague I have administered salvarsan to a number of patients with spinal and brain syphilis; in one, a paretic, all the symptoms were aggravated.

One of spastic spinal syphilis was greatly benefited.

A case of syphilitic epilepsy the patient had had frequent and repeated convulsions, and there were a number of tubercular syphiloderms scattered over the body, the serological test was strongly positive. Forty-eight hours after the injection the patient developed the severest convulsion she had ever had, and for several days after she was stuperous and could only be aroused with the greatest difficulty. Two weeks later the Wassermann reaction was negative, and the cutaneous lesions had nearly all healed.

It is now three months since she received the remedy, the Wassermann is still negative, and she has had no more convulsions.

These nervous syndromes are serious by-effects, and anyone who uses salvarsan in cases of cerebro-spinal syphilis should carefully bear in mind Ehrlich's warning and resort to it only in desperate cases, and even then be prepared for very serious, and perhaps fatal by-results.

The chemical similarity between atoxyl and salvarsan has caused all careful observers to fear that the newer arsenical compound might have a similar destructive effect upon the eyes.

It is a recognized fact that there is considerable risk in prescribing arsenic in large doses, and for any length of time, to anyone with active eye disease.

When the eye disorder is of syphilitic origin it is the accepted practice to push to the limit the mercurial and iodine treatment, and many can testify to the good results obtained in seemingly desperate cases.

The same seems to be true of salvarsan for reports have been made where the eye symptoms promptly subsided after the administration of a single dose of the drug, and it has also been reported that salvarsan had a marked curative effect in cases where the eye symptoms have recurred, and in others, that developed those symptoms after the drug had been given. In the latter class of cases a repetition of the salvarsan resulted in an amelioration of the eye complications, and even, in some instances, brought about an apparent cure much more rapidly than when mercury and iodides were used.

The ocular by-effects that have been observed after the use of salvarsan are: optic neuritis with resultant atrophy and blindness, iritis, choroiditis, paresis of the ocular muscles and neurochorioretinitis.

The first reported cases of optic neuritis, were, upon investigation found to be the result of the methyl alcohol used in dissolving the salvarsan; the eye symptoms in these cases occurred shortly after the drug was administered. Since these early reports there has accumulated quite a number of cases of ocular involvement, and from a careful analysis of these many of them seem to be the direct result of syphilis, but there still remain some that are not etiologically accounted for.

One of my early patients has developed optic neuritis with progressive atrophy which has not improved in spite of treatment. Since the third week after the administration of the drug his Wassermann has been negative.

A curious fact that strikes one in reading the literature, is that the report of the eye complications are much more frequent after the use of salvarsan than they were when mercury was used, and that these symptoms seem to develop much earlier in the disease than formerly; these facts can only be explained in two ways, either the development of the ocular syndromes are directly due to the action of the salvarsan, or the observers are more keen in detecting these complications because they are apprehensive of their possible occurrence.

The action of salvarsan upon the organs of hearing affects the auditory nerves as it does those of vision; the aural by-effects that have been observed are nystagmus, gradual diminution of hearing, vertigo with a tendency to falling, indicating that the nerves of the vestibule were in some way acutely affected; in many of the reported cases all of these symptoms were transient, but in some other, permanent deafness, varying in degree has persisted.

In most of the reported cases the aural by-effects presented themselves within seventy-two hours after the injection, although one reporter cites a case where the toxic action on the auditory nerve did not develop until two months after the injection; this patient had also suffered from a large slough over the point of administration.

Although there are certain well-recognized auditory disorders due to syphilis that might develop any time during the course of the disease, the occurrence of these symptoms following so closely after the injection of an arsenical compound, is to say the least significant.

It is not the purpose of this paper to decry the truly wonderful effects of salvarsan, nor to say anything to lessen the opinions or explanations of careful and conservative observers regarding these aural and ocular by-effects, still if the reports of deleterious eye or ear symptoms should accumulate, after the profession has had more experience with the drug, it must necessarily serve a severe blow to the usefulness of this new therapeutic agent, for it will deter many conservative men from using it, it would be far better to subject the patient to the slower and recognized treatment by mercury and iodides than to run the risk of incurring life-long blindness or deafness.

General By-Effects.—Elevation of temperature, preceded, in some instances by a chill, has been reported by nearly all observers: this reaction occurs even when the salvarsan is given intravenously, the temperature ranges from 100 to 105 degrees and lasts from one to five days.

Elevation of temperature, especially when accompanied with muscular pains, soreness and profuse sweating, is undoubtedly due to the liberation of endotoxines from the killed spirochætas.

Unless the patient's condition before the administration is below par, febrile reaction is of little consequence, in fact, a sharp fever, in cases in the secondary stage seems to be beneficial, increasing the curative effects of the drug. It has been my experience that the Wassermann reaction becomes negative much sooner and stays so longer in those cases where there had been a marked rise of temperature.

In looking over the literature we find a

number of deaths recorded after the use of salvarsan, but upon careful investigation practically all of these casualties can be attributed to cause other than arsenical poisoning.

Diseased hearts, or other circulatory faults, damaged kidneys, advanced cerebro-spinal diseases or general cachexia have been found accountable for nearly all of the deaths so far reported.

That deaths do occur after the use of salvarsan should give us pause, and make us ever alert to detect any departure from the normal of any vital or important organ, before we use this powerful agent for good.

These by-effects gleaned from personal experience and the reading of the literature of the subject have been set down to counteract any hasty judgment pro or con of this much discussed new remedy, with the hope of teaching the over enthusiastic to be conservative, and those who from limited experience, are not very familiar with the action of the drug, to take warning, that salvarsan may be as powerful an agent for ill as it is for good.

Discussion.

Dr. George Henry Fox, New York City, was asked to open the discussion on these papers. He said: Mr. President and members of the Society: If I were to begin to talk on this interesting topic, I might find it difficult to stop, but I think I can save a little of your valuable time if I simply read a few words since I have to open this discussion.

In this discussion, it must be confessed, at the outset, that to many salvarsan has proved a disappointment. To those who recently imagined that syphilis was to be forever cured by one dose of this wonderful specific, and that hereafter mercury will be of value on account of its historic interest, the disappointment has been very severe, and even to those who have witnessed the beneficial results of the remedy, the numerous and speedy reliefs which have occurred, it has brought perhaps disappointment in a milder degree. But while salvarsan has proved a disappointment and in some respects has not yet and probably never will fulfill the high hopes which its discoverer intended, it must be admitted that it has proved in many cases to be a remedy as efficacious in its action as it was brilliant in its inception. From what I have observed in my private practice and in hospital experience and from what I have seen elsewhere, I am convinced, as Dr. Fordyce has stated, that it is a remedy which is able to accomplish in certain cases what no other remedy or method of treatment has accomplished. While I agree with Dr. Fordyce entirely in saying that salvarsan has accomplished what mercury has never accomplished, at the same time I heartily agree in the assertion made by Dr. Gottheil that the disappearance of symptoms is by no means indicative of a cure of syphilis. In saying this of what salvarsan has accomplished, I am by no means unmindful of the brilliant results which so many of you have had and in so many cases by the proper use of mercury.

There are many points mentioned in the articles to which we have listened which might be discussed, but I may refer briefly to one point to which brief mention was made, namely, the use of salvarsan in other diseases than syphilis. As you all know, injections have been given patients with leprosy and psoriasis and other skin diseases, and negative results, as a rule, have been reported. One leper under my care in the New York Skin and Cancer Hospital received an injection, after which his temperature dropped to ninety-five, and his condition became critical. In fact, I had for a little while very little hope of his recovery, and at that time certainly would have ventured the assertion that salvarsan in leprosy was likely to do more harm than good. But very shortly after that, I was surprised to find the ulcerating tumors on this leper began to heal; that his physical condition began to improve, and his mental depression, which had been marked, was giving way to a hopeful state of mind, and feeling the benefit of the remedy himself, stupid as he was, he began asking for a second injection.

While I have seen psoriasis unaffected in a few cases by the use of salvarsan, I noted in one case that the psoriatic eruption disappeared with the early syphilide, and the patient claimed to be free from psoriasis, for the first time, in forty years. No claims can be based upon a few cases, but it seems to me that salvarsan may prove to be of value not only in certain cases of syphilis, but in some other affections, particularly certain diseases of the skin, but, as has been remarked already, it will require much more time and a vast amount of experience to determine the precise value and the exact indications for the use of this new and important remedy.

Dr. B. Lapowski, New York City: In the past six months I have had experience in treating 120 cases with salvarsan in the Good Samaritan Dispensary. The remedy is going to be used. The question arises how and when is it going to be used? Is it going to be applied as an adjuvant to mercury, or is mercury going to be regarded as an adjuvant to salvarsan.

One of the main points in the treatment of syphilis is to prevent the appearance of tertiary manifestations, especially of vital organs. The removal of secondary or primary manifestations while being important is not a good criterion of the value of the remedy used. It is as yet too early to say, what effect salvarsan will have upon the development of tertiary manifestations in patients treated with this remedy. That it

removes primary, secondary and tertiary manifestations quicker than mercury is open to question in two points: First, it does not act at all in certain cases, and second, when we compare the action of salvarsan with the action of mercury we must compare it neither with the action of mixed treatment or with administration of mercurial remedies by mouth, even not with injections of salicylate of mercury. The only just comparison is with calomel injections or with injections of gray oil.

And judging the action of salvarsan from that point of view it can be expressed as follows: What salvarsan does mercury will do, what salvarsan does not mercury will do, what mercury does not salvarsan will not do.

Salvarsan does not remove symptoms quicker than mercury, does not prevent relapses and has more contraindications than mercury.

With our present knowledge of salvarsan we can only use it as an adjuvant, in a very restricted number of cases (bad teeth), and rely upon mercury in the treatment of syphilis.

Dr. V. C. Pedersen, New York City: I want to utter a note of warning against the indiscriminate use of the intravenous injection of salvarsan, because it is a surgical procedure of no small importance. It was my misfortune very recently to have a case of nearly fatal collapse after intravenous injection of salvarsan. Three weeks before the injection the patient was examined very carefully as to his heart and arteries and kidneys, and so far as could be determined these organs were normal; that is to say, the man was as normal as a man could be who had had syphilis for twenty-six years. He had been suffering for many years with gumma of the right shin surrounded by much periostitis. The day before injection, be it noted, we examined his kidneys, and we found there was a faint trace of albumen, but no casts; there was a normal excretion of urea, and a normal quantity of urine passed. We gave him six-tenths of a gram of salvarsan at four o'clock in the afternoon by the gravity method, taking ten minutes to make the injection. This was followed by a period of extreme pain in his gumma, with later pain in his right knee. According to the German observers, in the lesions of syphilis there is a temporary activity stirred up by the arsenic as it circulates in the blood. The pain in the knee was dissipated by the local application of oil of wintergreen, and the patient went back to bed, having previously wandered up and down the room in agony. I saw him five hours afterwards, he was then normal in most particulars, aside from the irritation and pain. His heart was beating normally, about eighty, and he said he was feeling all right. About half past eleven I was called up by a nurse at the hospital who informed me that the patient's pulse could not be counted at one wrist, and was barely perceptible at the other wrist. She asked what she should do. I ordered camphor and ether and a large dose of strychnia, and said I would be at the hospital as soon as possible. She suggested that we wait until the results of the first medication were shown, and then go on. I said the patient was not only an important one, but a very dear friend of mine and I would not take any chances. I jumped into a taxicab and on arriving at the hospital found the patient in the condition described by the nurse. The man was lying on his side in utter collapse, as pale as death, and I thought he might live ten minutes. I could not find the pulse at one wrist, and a stethoscope placed over the heart elicited no sound, that is, muscular sound. I believed this was an example of one of the unexpected things found in the case of an alcoholic. I knew this man to be a drinking man, but did not know until after this how much he drank. He had previously falsified, and I learned that his daily habit for many years had been from six to fifteen or twenty whiskies a day, never getting drunk, but always drinking. We immediately started in to stimulate him. We gave him camphor and ether; one-tenth grain of strychnia in one dose; we gave him fifteen minims of one to one-thousand adrenalin chlorid every twenty minutes, and a high enema of whiskey and strong coffee, and also whiskey by mouth. After about one hour of that incessant stimulation, he began to come around so that the heart sounds could be heard. In two hours the heart was beating fairly normally, and the man began to show signs of recovery. The next morning he was feeling quite himself again. Although three physicians appeared in the man's private room, he was not frightened. One of the first questions he asked was, "Doctor, am I going to die?" I replied, "I do not think you are." He answered, "I do not give a damn if I do or not." It was that unbroken courage, that nervous force, notwithstanding it was mental in character, which helped to pull this man through. This man's kidneys during the next twenty-four hours showed practically every form of casts known to the microscopist excepting pus and blood casts. The amount of urine he excreted was much decreased, and of course the urea was much decreased. Under the free application of ordinary water his kidneys cleared up in the next twenty-four hours. We examined the arteries and found no arteriosclerosis, in any of the palpable arteries, and he had normal blood pressure prior to the injection.

The effect upon the lesion was very interesting. After the period of pain passed, it began to clear up with marvelous rapidity. We do not know how permanent the results will be, nor, in fact, how permanent any of the results will be,

but to-day, one month after injection, he is able to take the flat of his hand and strike the zone without any pain and does not suffer any pain at night. He was so much impressed with the benefit or improvement following this injection over anything he had experienced in many years, that he asked me to give him another injection. He said he was willing to take the risk. I mention this to show here is a man who previously after a careful examination did not show any obvious lesion of the heart, but simply chronic poisoning with alcoholism, who nearly died when the stress of salvarsan was put upon it. Three weeks afterward Dr. Harlow Brooks examined the man's heart again, and gave the opinion he has a moderate degree of myocarditis, and that as he was a middle-aged man, if he took ordinary care of himself, he might never hear from it.

Dr. J. M. Swan, Watkins: I gather from the papers I have heard this afternoon that the administration of salvarsan is very frequently determined upon after the trial of the Wassermann reaction, and I wish to say that it is my belief that the blood for doing a Wassermann reaction should only be taken after a vein-puncture. This advice may seem superfluous to many, but I have recently had under my care a patient with an infected antrum in which the infective organism was supposed to be the treponema pallidum, and in which the Wassermann reaction was said to be positive. In this case the blood had been obtained three times, twice from a finger puncture, and once from wet cupping of the back. I am of the opinion that a Wassermann taken in this way is valueless and should not be interpreted as an indication for the administration of salvarsan or any other antisyphilitic remedy.

Dr. Edward D. Fisher, New York City: I think we can look upon salvarsan in the same way that we look upon mercury in the treatment of diseases of the nervous system. It is useful in syphilis of the nervous system, but not in parasyphilitic conditions of the nervous system, as tabes, and general paresis. Mercury has a curative effect on syphilis and so has salvarsan. Mercury is not supposed, by most of us, at least, to have any curative effect on parasyphilitic conditions, such as general paresis or tabes. A few manifestations that may occur in tabes, such as ptosis, or ocular muscular paralysis, which have been shown to disappear by the use of salvarsan, have been known also quickly and easily to disappear with the use of mercury. My position, therefore, at present is this: As far as the use of salvarsan in organic nervous diseases is concerned, that probably it will be as ineffective as mercury. At the present time, it is too dangerous a drug; as it has a tendency to induce degeneration, and especially in certain nerve fibers, as the optic nerve and other nerves of the body, and until we get further information on this subject I do not think we ought to use it in those diseases.

THE NEW OPERATING PAVILION FOR THORACIC SURGERY AT THE GERMAN HOSPITAL, NEW YORK.*

By WILLY MEYER, M.D.,
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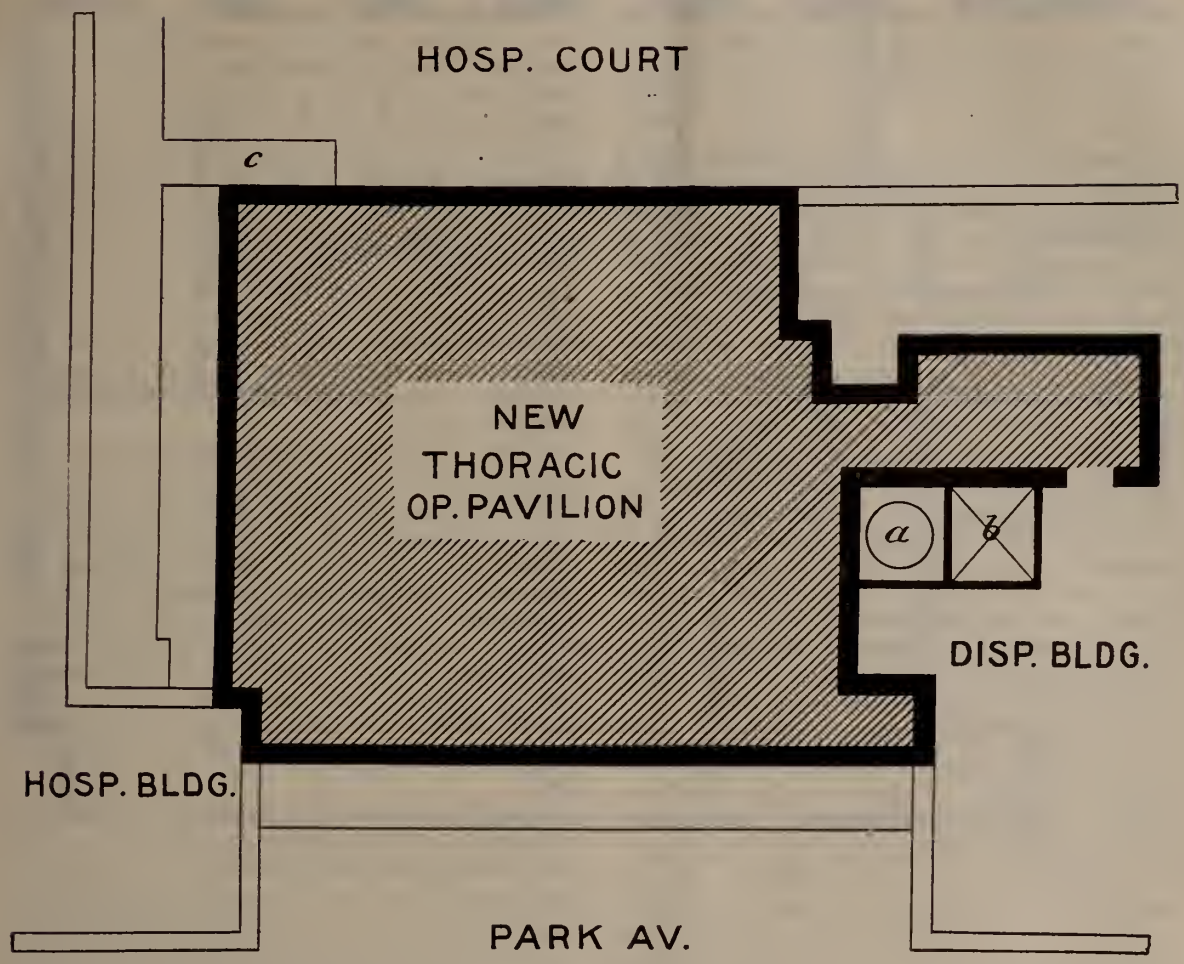
When the writer returned in June, 1908, from the meeting of the American Medical Association in Chicago, where thoracic surgery had been a topic of discussion, he made the Trustees of the German Hospital of New York the following proposition: If you will provide the space, I will provide the apparatus and machinery required for the performing of thoracic surgery at our hospital. They accepted.

Two tasks had thus arisen, first, to find appropriate space in the hospital; second, to find apparatus. With the second subject I have dealt in *Journ. Am. Med. Assn.*, Dec. 11, 1909. To-day attention is invited to the development of the first one.

The German Hospital is always occupied to capacity and for quite some time it looked as if there was no space to be found in either the main buildings or the annexes. Then somebody suggested the refitting for surgical purposes of the old operating room on the top floor of the old hospital, now used as living quarters of the assistant superintendent. After careful examination the proposition was dropped because the pumps could not be located where noise and vibration would not be transmitted to the wards below; but it suggested the looking for a location near the engine room of the hospital and the idea of placing our machinery in the latter. Attention was thus directed to a room of 15x23 feet in the basement of the one-story laundry building, in the sub-basement of which the engine-room and boiler-room are located. The room opens into the covered subway between the hospital and the dispensary buildings and their elevators. It had been used as a repair shop, had a cemented floor, white-washed brick walls, four windows and electric light, but no plumbing for heat, water or drainage. Consent was obtained to let me fit it up as an operating room; then my positive differential pressure cabinet was installed therein, and our first intrathoracic operation performed on April 3, 1909.

It became, however, immediately evident that the room could be but of temporary use. With doors and windows closed during an operation the lack of proper ventilation became painfully apparent and during the months from May to September the combined heating effect of the engine-room below, the laundry above and the sun outside created conditions which made it practically impossible to stay in the room for any length of time.

Yet as an expedient it gave good service during the other months, and by its object lesson paved



a. Chimney of hospital—power house. b. Elevator. c. Fire-escape.

the way to an all-around better understanding and appreciation of the requirements of an installation for thoracic surgery. With a horizon thus widened, a renewed full consideration of the whole subject led to the conclusion that only by the establishment in the hospital of a separate department for thoracic surgery, dedicated to that only and to be used for no other purpose, could it be hoped to obtain for the department the desired broadness of scope and scientific atmosphere.

Well knowing the difficulties of such an undertaking in an institution supported by voluntary contributions, the writer went to his friends and to his former patients and was favored by them to the extent of $14,000. The directors of the hospital voted $10,000. These sums and certain additional guarantees put the hospital in possession of a fund which justified the attacking in real earnest of the problem of housing the new department.

Among those charged with the task of crystallizing the matter, opinion differed widely as to when to build and where to build. The hospital had other building operations in contemplation and it was urged to concentrate them all into one grand effort rather than to prejudice the larger projects by a smaller one. But the latter was tangible, while at that time hope and doubt still attached to the former. Finally those urging immediate action for the establishing of the department prevailed. A decision was reached in favor of erecting a new story on the power house and laundry building, which had the only available flat roof of any size (Fig. 1). The roof offered a somewhat irregular-shaped area of about 2200 square feet. Access to the same was to be had from the second floor of the hospital building by bridging the 10-foot gap between it and the laundry building, a side exit to be provided on the opposite side through a room of the adjoining dispensary building.

It devolved now upon the writer to furnish a building program. Eventually it took shape in co-operation with his brother, Julius Meyer, consulting engineer, in the following list of requirements:

Two separate operating rooms, one aseptic, one septic, with common instrumentarium but separated instrument sterilization; two operating

stands in each room, one for the use of the apparatus which the writer had obligated himself to provide for the hospital, and one for the use of other thoracic apparatus. Skylights with northern exposure over both rooms. Water sterilization in one of the sterilizing rooms arranged to serve both operating rooms. Sterilization of dressings and utensils in a separate room, so located as to be equally accessible from both operating rooms. Anesthetizing room. One or two recovery rooms for detainment of patients near the apparatus immediately after the operation. In connection therewith a pantry. Doctors' room with lockers and toilet; nurses' dressing room with toilet. Laboratory. Power room, cork-lined. Room for the storage of movable thoracic apparatus and of other accessories. Linen closet. Fire escape. Further requirements were: Ventilation of inside rooms by flue to the abutting main chimney; heating of operating rooms to 84 degrees F.; electric wiring for house current and for Edison current. Further, new private elevator from the before mentioned thoracic operating room in the basement, the latter room to be used as a vestibule and preparatory room for the story above.

This program had to run the gantlet of scrutiny by the building committee of the hospital and its architect, I. E. Ditmars, Esq., and was objected to on several grounds. The laundry building stands on swampy sub-soil. It is therefore necessary to go down deep for a firm foundation. This made the estimate of the elevator run into forbidding figures. With the private elevator fell the use of the room below as a part of the new story, an important change. The hospital ward from which a bridge was to be thrown to the roof of the laundry building, is a male ward. To transport female patients through this ward appeared of questionable propriety. It had been principally for this reason that it had been desired to retain in the scheme the lower room with its separate entrance from the hospital subway and to prevent the necessity of carrying the supplies for the new department through the ward, as also to prevent the passing through the same to and from operations of the staff and of visitors. These features had now to be reckoned with, and when, in addition to that, the committee came upon the fact that the bridge involved the sacrificing of the space of a bed, the bridge was vetoed. So were also the skylights, because the use of the new roof for the purpose of a roof-garden was not to be jeopardized. Next the committee decided that the new front wall must be moved five feet back from the front of the story below, in order to save a north window in one of the dispensary rooms and for architectural reasons. The available area was thereby reduced to round 2,000 square feet.

Thus shorn, the proposition came back to us and completely upset all prior plans. In the face of the reduced area the question arose at once what rooms best to dispense with. Writer settled upon omitting the laboratory, because the pathologic laboratory of the hospital in the new dispensary building is on the next higher floor and in easy reach from the new department; upon omitting the nurses' dressing room, they to come ready dressed and to use one of the recovery rooms, but upon retaining a nurses' toilet; also upon the omitting of a room for apparatus storage and he further decided that the operating rooms must be kept as large as possible, dimensions of all the other rooms to be cut down.

In due course his brother came forward with the plan herewith presented (Fig. 2), which found the approval of all concerned. A vestibule has been made of the dispensary room through which a side exit had at first been contemplated and the main entrance to the new department has been located here. Adjoining the new vestibule is the elevator of the dispensary which connects with the hospital subway and by means of the latter with all the public wards and the private building of the hospital, also with the laboratory. The plan speaks for itself.

Upon the basis of the same the architect was instructed by the building committee to prepare the working plans and specifications; assigned to him was further the letting of contracts, the superintendence of the work of building the house for the department, its plumbing, heating and wiring for electric light and the installing of the instrument case and of the sterilizers. Contracts were let in June, 1910, and the work started at once. It was finished in April of this year.

The construction of the front wall of the new story offered some difficulty; an iron girder had to be stretched from the north wall of the dispensary building to the south wall of the hospital building, a distance of about fifty feet, thus entirely bridging the laundry building. The new front wall is suspended from this girder and the front of the new roof also rests on the same because the front wall of the story below was found too weak to carry them. The partitions are brick and terra cotta. The inside faces of all the walls and the partitions are tiled seven feet high with white glazed tiles. The floors of the operating rooms are laid with imported French tile.

The installing of our apparatuses and plant, and the piping and electrical connections for same, also the installing of a new type ventilated reflector was managed by my brother and directed by myself. It was January of this year before we got a chance to begin with this work; it was finished by the end of March.

FIG. 2.—Plan View of the new operating pavilion for Thoracic surgery at the German Hospital, New York.

1. Aseptic Operating room.
2. Aseptic Sterilizing room.
3. Septic Operating room.
4. Septic Sterilizing room.
5. Instrument case, accessible from both sterilizing rooms.
6-7. Instrument sterilizers.
8-9. Water sterilizers; water piped to (3).
10. Sinks.
11. Washbasins.
12. Utensil sterilizer.
13. Gauze sterilizer.
14. Sterilizing room.
15. Anesthetizing room.
16. Recovery rooms.
17. Pantry.
18. Electric stove.
19. Doctors' room.
20. Lockers.
21. Doctors' toilet.
22. Nurses' toilet.
23. Power room.
24. Linen closet.
25. Hall.
26. Entrance.
27. Chimney.
28. Elevator.
29. Universal chamber.
30. Positive differential pressure cabinet.

The equipment in the way of apparatus* with which the new department starts off is in the aseptic operating room a universal differential pressure chamber consisting of a negative chamber with positive differential pressure cabinet within; and a positive differential pressure cabinet in the septic operating room. They are the same apparatuses which I had temporarily erected at the Rockefeller Institute for experimental purposes. They were knocked down there last June and placed in storage to await the completion of the new building at the German Hospital.

We thought then we had reached the end of our experiments but found at every point when we got to work again that we were only just beginning. In fact, when we started to erect the large universal chamber at the German Hospital it was a huge experiment.

Much thought and study was given to the rebuilding of the chamber on hospital lines. When the apparatus was first erected for testing purposes at the Rockefeller Institute we had the iron work of the chamber covered on the outside with tarpaulins of rubber sheeting for air-tightening; the electric wiring put in haphazard, a

* The apparatus is the result of three years of investigating, experimenting and testing on my part wherein I had the assistance of my brother. We employed the services of many firms in the manufacture of the parts of the apparatus and of its accessories. To name them all would lead too far. But without unfairness to them an exception can be made of Mr. Robert Kny, of The Kny, Scheerer Co., who at the very beginning of my experimentation put at my disposal then vacant floor space in their factory where to assemble and test the apparatus, solved thereby for me a vexed problem, and thus contributed at that time to the rapid progress of my work.

temporary floor, the machinery right next to the chamber, putting up with the noise and vibration caused thereby, and had been astonished at the perfect asepsis obtained within chamber walls accepted hospital practice.

Fig. 3.

Part of Aseptic Operating Room.—Showing second operating stand below ventilated reflector. A corner of the negative chamber seen at right. The large opening therein is the air intake; next to that the gauge pipe and the air pipes to and from the positive cabinet which is within the negative chamber. The operating table is the one previously described. An improved shorter one was built for use in the chamber.

In the fall when we took the material out of storage and came to look again at the rubber tarpaulins they were found to have spoiled in spots. Not wishing to present to the hospital something that would cause considerable expense for maintenance every two or three years, recognizing also the necessity of a smooth sanitary outside surface of the chamber because the space next to it was also to be used for surgical work (Fig. 3), we began at once to cast about for something more permanent and durable than rubber sheeting, and after full consideration of everything looking at all promising and after some experimenting, settled on hard rolled crimped copper sheets as the most likely material to give satisfaction. In order to gain experience with it and the many untried details involved, before venturing on the covering with copper of the large chamber (16x8x8 ft.), I replaced in October of last year by copper the inside rubber covering of a positive differential pressure cabinet which I am still permitted to have at the Rockefeller Institute. The experiment turned out satisfactorily. It was found that under even our light air pressure sheets of 16 oz. copper are as pliable as a fabric and it became apparent that in covering the outside of the large chamber with copper, beauty of appearance would have to be sacrificed to the necessity of drawing the copper up tightly against the iron structure, in order to prevent noise from the inward and outward bulging of the copper under varying pressures.

The question of how best to obtain inside of the chamber sanitary evenness and smoothness for walls, ceiling and floor was next taken up and investigated (Fig. 4.) For walls and ceiling a panel board was selected, manufactured of pressed

Fig. 4.

Interior of Universal Chamber.—Vertical pipe in rear is air intake of negative chamber with valve for producing partial vacuum therein. In front positive cabinet with air exhaust pipe and valve for producing positive pressure in cabinet. By means of these two valves, handled by one man, all the various pressures and variations in pressure are obtained. The differential pressure for the patient is maintained between the inside and the outside of the positive cabinet, the outside being the negative chamber. In rear, left, the switchboard controlling the motors in the power room and the several light circuits in the chamber. In front instrument shelves. Panelled walls and ceiling cemented floor with sanitary base. Ventilated reflector.

wood pulp. It has a smooth finish, is very dense and consequently slow burning. To make it fireproof it was covered on both sides with several coats of fireproof paint. For the floor and base a non-absorbent magnesite cement composition of dark brown color was selected, laid on expanded metal and on a wooden sub-floor. Ceiling, walls and floor form a thin shell inside of the iron structure. Care has been taken so to construct, that whatever variation in air pressure may be produced within the chamber, that is within the shell, the same pressure will always prevail on both sides of the latter so that it will not be pushed in.

In the light and power plant avoidance of their possible interruption has been the leading point of view, next avoidance of noise and vibration. The plant has been split up into small units, each a reserve for the other and each separately protected so that the failure of one does not affect the others.

Fig. 5.

Power Room.—In front pressure blower, and equalizing tank with air pipes. In rear suction pumps, each carrying a muffler which connects into the suction pipe coming from the negative chamber. At right exhaust pipe.

The power plant was not located in the engine room of the hospital as at first contemplated. It was deemed best to make the department self-contained. The current is thrown on or off in the department; thus is avoided the otherwise existing necessity of communication between new department and engine room every time the plant was to be used and misunderstandings cannot occur. Engine room location of the plant would further have made the pipe lines long and partly exposed to the open air and would have necessitated the cutting of holes for the same through a number of heavy walls. Besides the engine room would have become crowded by the addition of our plant and its reserve space would have been lost. Separation of the two appeared admissible, because our plant needs no supervision while running. The part the engine room crew takes in its operation is confined to oiling it up before use. While in use the control of the plant is at the operating table.

The motors and blowers are direct connected (Fig. 5). Their speed has been adjusted to obtain in the negative chamber a proper balance between these four items: ventilation, temperature, quick response of the gauge to the valve-setting and noise in valve and in suction pipe. The pressure blower serves both positive cabinets, that within the universal chamber and that in the septic operating room. This is unobjectionable because thoracic operations are not yet of such frequency that the use of both cabinets at the same time could not be avoided. Reserve space in the power room and a reserve switch have, however, been provided for a possible additional pressure blower. From the pressure blower the air is sent into an equalizing tank, and pipe connections from it to the cabinets are so arranged that air can be sent in either direction.

Walls and ceiling of the power room are lined with 2 in. of cork. The outfits are bedded on 8 inches of cork. Motors and blowers of larger size than required are employed and run at slow speed to reduce the noise of the impellers revolving in the blowers. In order to prevent the transmission of the still remaining noise to the chamber through the air pipes, muffling and baffling appliances have been interposed, specially designed by my brother (Fig. 6). Ordinarily a muffler is built to deaden the noise of periodic discharges of gases or steam going from high pressure to low pressure. In this instance a constant flow of air prevails with the same pressure at either end of the muffler.

The wires coming from the Edison meters and from the house switchboard are carried first to switches of a wall panel in the power room of the new department; they are made necessary by a city rule which demands that a man repairing a motor must be able to protect himself against the starting up of the same from a distant point; for, as was pointed out before, the control of the motors is not in the power room but in the operating room respectively within the universal differential pressure chamber. From these switches the three Edison wires and the two

house wires, again according to city regulation, run in separate iron pipes to the switchboard in the chamber and thence fifteen wires in another iron pipe back to the five motors in the power room, three to each motor.

The wiring scheme had to be submitted for approval to the Edison Company, the Fire Underwriters and the city. As the house voltage is 120, the Edison voltage 220, and as the two sources of current supply were to be used interchangeably, it became necessary to run our one-half h.p. motors on one side of the Edison circuit, while their rules permit only a quarter h.p. motor to be so run. They relented because we are always running two motors at the same time and by placing one on each side of the circuit their system remained balanced. The placing of the fifteen wires into one pipe required an exception from a city rule. From October until the middle of February was consumed with negotiations and not until then was it feasible to begin the construction of the switchboard in the chamber.

Fig. 6.

Part of Aseptic Operating Room.—On left door of universal chamber swung open. On right instrument case set in the partition between aseptic and septic sterilizing rooms. Through it the rheostat for the pressure blower is seen on the wall of the septic operating room. Above, muffler and the suction pipe leading from the negative chamber to the suction pumps.

The lighting of the chamber is arranged from the point of view of the certain prevention of total darkness in the chamber during an operation. There are two circuits of 12 sixteen-candle power carbon lamps each. Ordinarily one is run on house current and one at the same time on Edison current. Double pole switches for each enable the running of each circuit on either source of current. One socket in each carbon lamp circuit is used to connect in a hand reflector, indispensible in thoracic operations.

In addition there is over the operating table the already mentioned new reflector which has six 100 watt tungsten lamps, divided into two circuits of 3 lamps each, wired the same as the carbon lamp circuits. These reflectors, too, are specially built for the new department and used here for the first time. There are four of them, one for each operating stand (Fig. 7). They embody my brother's invention of ventilation for reflectors. In operations where an intense illumination is imperative requiring a low hanging source of light the great heat development of high candle power lamps is a drawback. On several occasions after exposure to that heat in protracted thoracic operations the surgeons temporal arteries remained distended for several days. Here was an urgent need for improvement. The heat being transmitted downwardly through the air, if the air could be ventilated off quicker than it could be heated, the space below the lamps must necessarily be cooler than without such ventilation. Proceeding from these premises two panes of glass were arranged below the lamps, spaced some distance apart and means provided for a flow of air through this space. In the universal chamber the difference in pressure between the air supplied to the positive cabinet and the air pressure prevailing in the negative chamber is utilized to make air flow from the supply pipe through the reflector out into the negative chamber, whence it is drawn off by the suction pumps. At the three outside stands the reflectors are piped to the ventilating flue and thus the draft of the hospital chimney is utilized for reflector ventilation.*

The chamber is painted inside a flat white; but the two panels opposite the surgeon and his assistant are painted dark gray to provide a rest for their eyes when they are glancing up.

What we have termed "recovery rooms" are to be considered a part of the operating rooms and not sick rooms in the ordinary sense. They come into use after the operation. The beds in the same are constructed on the general lines of stretchers; they can be wheeled to the apparatus

* These reflectors are manufactured by I. P. Frink, New York.

and are of such height that the head of the patient can be introduced into the collar of the differential pressure apparatus without taking the patient from the bed. It will be seen that the recovery rooms are to be used in the beginning of the after-treatment as long as it may appear advisable to keep the patients in easy reach of the apparatus. Exigencies may arise that require the reopening of the wound; in other cases breathing under differential pressure after the operation has been found beneficial; again in other cases the thorax will not be entirely closed but will be left open for drainage and the patient will then be kept for 24-36-48 hours under

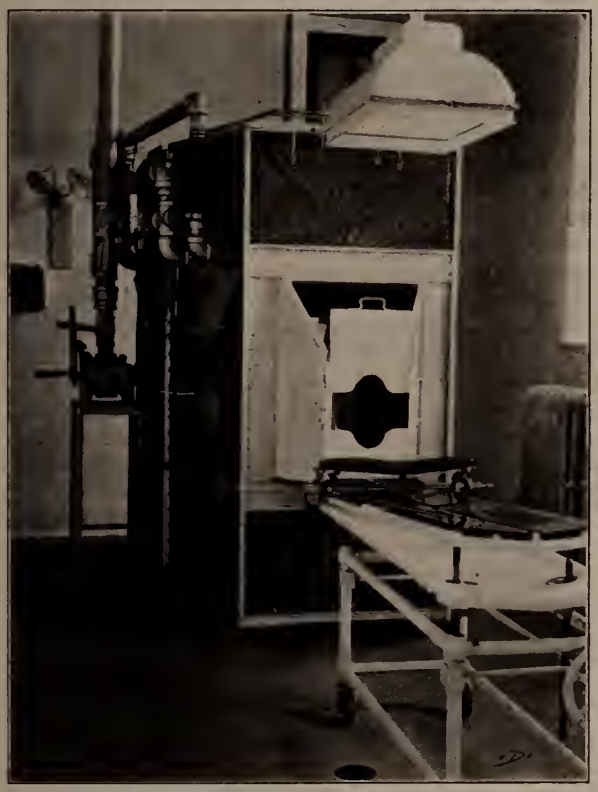


Fig. 7.

In Septic Operating Room.—On rear wall motor control. In front positive differential pressure cabinet, showing air supply with reserve hand blower and air exhaust with pressure valve, also gauge. In the after treatment the stretcher bed takes the place of the operating table here shown. Ventilated reflector.

differential pressure.* The first changes of dressings may also require the use of apparatus. Generally speaking, patients will be kept in the recovery rooms during the first crucial days after the operation and then be transported back to the hospital for further after-treatment.

The German Hospital of New York appears thus thoroughly equipped for the performance of thoracic surgery by the transpleural route. It is not limited to the use of the apparatuses which I have provided, but afford facilities for the use of any other thoracic apparatus and the employment of all methods appearing at all promising. For, looking broadly at the prospective evolution of thoracic surgery, I expect practice to prove that surgical work in the thorax will have to be done along the general lines of surgical work in other parts of the body; here as there the various anesthetics and the various methods of administering the same will be used; likewise the several postures during operation; also dry and moist methods of wound treatment, and finally the various kinds of after treatment, that is drainage, or closing of the thoracic wound without drainage. From all of them will be selected what the welfare of each patient may at the time demand. In other words, in thoracic surgery, too, we shall learn to individualize. There is no one apparatus and no one method covering every contingency. They should all be employed wherever indicated, and should be ready for immediate use when required. It is on these comprehensive lines that the new thoracic department of the German Hospital has been conceived and constructed.

That it is necessary to have on hand all the various types of apparatus I had impressed upon me the other day when a woman was brought in in extremis. General anesthesia was out of the question, consequently intubation not feasible. The only position which she could endure was upright and bent over forward, therefore the use of a differential pressure cabinet excluded. Indicated were the use of oxygen applied per mask and a very slight differential pressure and local anesthesia.

Another point which I have very much at heart can now also be taken up and its relevancy be thoroughly investigated, viz., the question whether positive and negative pressure have different effect upon patients suffering from various thoracic diseases, or whether no difference can be found. In the universal differential pressure chamber of the German Hospital it is for the first time possible to approach the question under conditions which will make the results conclusive, if otherwise properly handled. To insure the latter, arrangements have been made for the attendance at operations in the chamber of specialists in the matters to be examined into. The surgeon himself cannot possibly attend to them and at the same time do full justice to his patient.

Other conditions as thorough asepsis, easy handling of the air pressure, no lagging of the gauge behind the valve, stability of pressure between its intentional changes; artificial respira-

* Since this paper was read the first patient to be operated upon in the new department (May 11th) has been treated after this fashion with good success. His pleural cavity was drained for 48 hours, then closed airtight and the patient returned to the ward. In a second case, operated on May 25th, the pleural cavity was likewise drained, the patient again being kept under differential pressure for the first 15-16 hours after the operation. The first dressing was left in place for seven days, when the drain was removed and the drainage wound covered with a piece of rubber-dam. The patient has so far made an uninterrupted recovery.

tion by means of the valves of the positive cabinet and also of the negative chamber; change from positive to negative pressure, or *vice versa*, without interruption of the differential pressure and without change of position of patient or crew; ordinary normal anesthesia: all these points are matters the proper functioning of which is insured by the construction of the apparatus and has been dwelt on at length on former occasions.

With increasing insight into this new field of surgery I am becoming more firmly convinced that the establishment of a special department for thoracic surgery was a step in the right direction.

THE DIAGNOSIS AND TREATMENT OF MENINGITIS IN CHILDREN.*

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THERE are but few diseases with which the physician comes in contact, which show, when fully developed and of typical form, a more characteristic clinical picture than does inflammation of the meninges. On being called to see a child, unconscious or delirious, with high fever, rigidity of the neck, and retraction of the head, strabismus, stiffness of the limbs, convulsions or inco-ordinated movements, the mind at once jumps to meningitis as the diagnosis, and in a large proportion of such instances the conclusion is correct. Until recent years, too, when once this diagnosis was made the usefulness of the physician ceased, except as an alleviator of suffering in the patient and a consoler of the parents and relatives. With the admission of the diagnosis of meningitis hope of recovery fled, or at least was reduced to such an inappreciable minimum that it was but a refinement of cruelty to hold it out to the anxious relatives.

During the past few years, however, our diagnostic methods have so greatly improved and our therapeutic powers have been so greatly enhanced, at least for one form of meningitis, that the physician is no longer content, nor is he justified in resting content, with the diagnosis of meningitis. He must now exert his whole energy and ability towards determining the particular type of the disease with which he is dealing, and discovering in the fewest possible hours whether his case is amenable to specific antimeningitic treatment. On seeing a case in which there is a suspicion of meningeal inflammation the physician must ask himself four questions. Is the case a true meningitis, or is it some other condition simulating it? If a meningitis is it tuberculous or is it purulent? If purulent is it due to the *Diplococcus intracellularis meningitidis* or to some other organism? If due to the meningococcus how can the antimeningococcic serum be obtained with the least loss of time, how is it administered, and what results may be hoped for from its use? It is these questions which I propose to discuss to-day and in cidedly ill. In such a condition especial inflammations as they occur during early childhood.

As I before stated, the clinical picture of a full blown case of meningitis is not, as a rule, easy to mistake for any other affection. In the early stages of the disease and in atypical cases, however, the problem is more difficult. Possibly the first symptom noted in the child that is coming down with an attack of meningitis is an inexplicable alteration in his character. This usually manifests itself in a desire to be left alone. It may appear as an increased docility and affectionateness, but far more frequently is shown by irritability and peevishness. A few years ago an eminent pediatrist told me that in his family practice he made it an invariable rule that an ordinarily well behaved child who became naughty should have his temperature taken before he was spanked. This may seem a refinement of cruelty to the overworked and irritated mother, but it serves to drive home the lesson of the necessity of watching for changes in the child's character as a symptom of the onset of disease. The younger infant usually shows its change by a strange apathy to its surroundings. The normal baby has an inborn aversion to strangers, and the infant who will allow a strange man to come to its crib, turn and handle it, and shows neither interest in nor fear of the procedure, is probably decidedly ill. In such a condition especial attention must be directed towards symptoms of meningeal disease. Another symptom often noted by the parent is sensitiveness, and tenderness to the touch, the child crying out with pain on being handled in a manner somewhat suggesting infantile scurvy or the early hyperesthetic stage of poliomyelitis. Often these two points, with headache and possibly loss of appetite, vomiting and most frequently constipation, may be the entire history obtainable, though of course, convulsions may often be the very first sign of trouble.

On observation by the physician, however, many points suggesting meningitis may be elicited quite early, if carefully and systematically looked for. There is no instance in medicine where the value of inspection without disturbing the patient is so great as it is in the early stage of meningitis. If one will sit and quietly watch a child for five minutes without moving or speaking a number of

* Read at the annual meeting of the Medical Society of the County of Oneida at Utica, January 10, 1911.

points of great diagnostic value may be seen which cannot be obtained after the child has once been moved. The first thing to be noted is a fine tremor of the hands and feet and often abortive half motions of the hands as though the child were starting to do some voluntary act and then gave up the plan when but half completed. Next in importance comes the observation of the respiration. The normal child unless under the stress of his emotions breathes with almost complete regularity. Irregular breathing, especially variation in the depth of the respiratory movements, sometimes suggesting the Cheyne-Stokes type, at others a gradual increasing depth, suddenly terminated by a period of apnea, the so-called "step-ladder breathing" are most important signs and almost in themselves sufficient to establish a diagnosis. Deep sighing and frequent yawning are at times signs of meningitis. The third point to be observed is the condition of the eyes. They are often fixed and have a staring appearence; more frequently, however, they show irregular movements and muscular paralysis, either constant or transient, while irregularity and even fixidity of the pupils are at times seen. The slow pulse so common at the onset of meningitis in the adult is but rarely met in the child. In the young infant a tense and bulging frontanelle is a most important sign of the increased intercranial pressure in meningitis.

These few, and, to the unobservant, elusive, signs having called our attention to the possibility of meningeal disease, the next step is to examine the condition of the body muscles and reflexes. The rigidity of the neck, which may or may not be associated with retraction, is a sign of the greatest importance. This, added to the generally spastic condition of the musculature, greatly strengthens the diagnosis, which must now be confirmed by looking for the specific signs of meningitis.

The best known of these is the Kernig's sign —the inability after flexing the thigh upon the body to extend the leg at the knee. This may be elicited in one of three ways. The usual method is with the patient on his back, to raise the thigh beyond the perpendicular and then to elevate the foot. In meningitis straightening the knee beyond a right angle is impossible and causes excruciating pain. The same result may be obtained by raising the body to the erect position in bed. If the legs remain flat on the bed the sign is negative; if, when the body is partly raised, the knees are flexed the sign is positive. The third method is to seat the patient upright on a chair and then forcibly to extend the legs in front of him. The Kernig's sign is probably the most constant and the most accurate sign of meningeal disease. Like all signs, however, it sometimes fails. The Babinski sign, consisting of slow extension of the great toe on stimulation of the plantar surface of the foot, is a variable quantity in meningitis. It is of absolutely no diagnostic value in infancy before the child has learned to walk.

During the past two years two new diagnostic signs have been pointed out by Brudzinski, which the author claims are of great value in the diagnosis of meningitis. The "contralateral reflexes in the legs" as described by the author, consist of two different and variable actions. The "identical contralateral reflex" consists of a concomitant flexion of the leg on one side when the opposite leg is flexed passively. The "reciprocal contralateral reflex" consists in extension of one leg associated with passive flexion of its mate. One or the other of these two types is said to occur in nearly every case of true meningitis, and to be entirely unknown in normal children. The reflex is said to be like the Babinski sign, a reversion to a younger type of function.

In 1909, the same author reported still another sign of meningitis which he claimed the "neck sign." This consists in that if passive flexion of the neck is made with one hand while the other holds the chest firmly on the bed the act is accompanied by a strong flexion of both the hips and knees. Morse, of Boston, who has studied these signs, finds them never to be present in healthy children while they are usually found during some stage of an attack of meningitis of any type. Finding one or another of these signs is strong evidence of the presence of meningitis. Their absence, however, does not exclude the disease.

When by the observation of the above signs and symptoms, the probability of the presence of meningeal disease has made itself evident, the question arises of learning the particular type of the meningitis. Though this is often difficult and at times impossible from the common bedside examination, in many cases a careful inquiry into the history and thorough examination will give valuable information. The most important difference between the tuberculous and purulent forms of meningitis lies in the mode of onset and course of the disease. If the disease is of a tuberculous nature there can usually be obtained a family history of tuberculosis, or more frequently still a story of adenitis, Pott's disease, or hip joint disease in the child, this frequently being of long standing and often considered as completely cured. In such a case a recent history of measles or of whooping-cough is of the utmost importance, owing to the great tendency of these two diseases to light up and disseminate localized tuberculosis. The slow and insidious prodromal period of peevishness, headache and vomiting, the history of night

terrors or a night cry, the comparatively low and very irregular fever, all point in the direction of tuberculous rather than purulent meningitis. On examination, too, the symptoms of the tuberculous disease in its early stage are less marked. The stiffness of the neck is slight and the retraction of the head is often entirely absent, while opisthotonos is but rarely seen.

The onset of an acute purulent meningitis, on the other hand, is characterized as a rule by its suddenness and its violence. A child, either well or suffering from some infection as pneumonia or otitis media, after a few hours of headache and some more or less violent vomiting, suddenly becomes acutely ill with a high, well maintained fever, convulsions, delirium progressing rapidly to coma, marked rigidity of the muscles, opisthotonos and sudden blindness. In such cases the entire prodromal symptomology, which in tuberculous disease lasts for possibly ten days, seems to be crowded into as many hours; herpes labialis or even herpes of the body resembling zoster occurs early in the purulent forms of meningitis and may often be a distinct diagnostic help.

The differentiation of the numerous forms of purulent meningitis is far from easy from a bedside examination, as symptomatically they closely resemble each other and we have to depend largely upon the history. In the presence of an epidemic of course the presumption is that the case is one of meningococcus meningitis while an antecedent pneumonia or otitis media point respectively to the case being pneumococcus or streptococcus meningitis. The presence of an erythematous, purpuric or petechial eruption suggests the meningococcus meningitis or "spotted fever."

There is, however, one form of purulent meningitis which shows certain quite typical characteristics. This is the so-called post-basic meningitis of the English, about the identity of which there has been so much controversy. This form of meningitis though rare in this country is quite common in England, and I had the good fortune to have excellent opportunities to observe a number of such cases during a year spent at the Great Ormond Street Hospital for Sick Children in London. Symptomatically this disease stands in a position midway between the usual purulent meningitis and the tuberculous meningitis. In its slow and progressive course and moderate fever the disease suggests tuberculosis, from which, however, it differs in the extreme retraction of the head, the opisthotonos being so great that at times it is necessary to put a pad behind the head to prevent bed sores from pressure of the occiput on the buttocks. Another early symptom is blindness, a feature not easy to explain as it differs from both the blindness of tuberculous and epidemic meningitis in that there are no changes in the eye grounds, and that if the child recovers the sight returns. An interesting symptom which seems to be constant in this form of meningitis is what the Englishmen call the "post-basic stare," the upper lid being markedly retracted while the eye balls are rolled down. Strabismus on the other hand is rare. The course of this disease is distinctly chronic, death rarely occurs in less than three weeks and recovery, at times complete, may take place after periods of three months. During this long period the child lies quietly on its side with head retracted and limbs stiff; convulsions are very rare. The child is very apathetic, but not unconscious, any effort to straighten the head being responded to by a sharp cry of pain. If the disease lasts over a long period hydrocephalus is prone to develop. Food is taken badly and there is usually more or less vomiting during the disease. Post-basic meningitis is supposed to be a variation of the more common epidemic cerebrospinal fever, being caused by an attenuated meningococcus.

Such then are the most important clinical signs and symptoms of value in the diagnosis and differential diagnosis of the various forms of meningitis. It must, however, be borne in mind that the presence of any one or two or even of all of the above is not sufficient to warrant a diagnosis of meningeal inflammation. It has long been known that during various diseases of childhood symptoms suggestive of meningitis may be found, whereas at autopsy no pathological lesions of the meninges can be discovered and the intracranial fluid appears normal. Such cases have been called serous meningitis and pseudo-meningitis. In 1894, however, Dupré grouped all such cases and gave to them the comprehensive name of meningism. This symptom complex, often clinically indistinguishable from true meningitis, is known to occur in connection with various diseases. Perhaps the most common of these are otitis media and pneumonia. Influenza is another common cause of meningism, as are all the exanthemata, typhoid fever, malaria, gastro-enteritis, intestinal parasites, and various other conditions. While in the children's clinic of the Presbyterian Hospital in New York, two years ago, I saw a young infant with a temperature of 105 degrees, retraction of the head, strabismus, rigidity, twitching and Kernig's sign. At first the case appeared to be one of epidemic meningitis. In consideration, however, of the intense heat of the day, before making a diagnosis, a cold bath was given, and in a few minutes the "meningitis" was cured. The case was listed as meningism due to heat stroke.

The explanation of meningism has caused

considerable controversy. The earlier writers insisted upon a neurotic or hysterical element as well as a direct action of a toxine. In more recent years the hysterical factor has lost in popularity and meningism is considered to be the result of a direct action on the meninges of a circulating toxine. In an able article a year ago (*Archives of Pediatrics,* January, 1910), Porter of San Francisco called attention to the fact that in a true meningitis the symptoms cannot well be explained by irritation of the meninges alone, but are largely due to stimulation of the pyramidal tract and the nuclei of the cranial nerves. The only difference between the physiological processes causing meningitis and meningism, therefore, is that in the former case the toxine which stimulates the brain substance is formed in the meninges; in the latter, elsewhere in the body. The theory is ingenious, interesting and explains meningism in a rational manner.

From the viewpoint of the practitioner, however, the theory of the cause of meningism is of but a minor importance to the means which are at hand for differentiating between the true and the false meningitis. Though the discovery of an otitis media or a pneumonia in association with the meningeal symptoms, the finding of intestinal parasites or the presence of a severe diarrhea may lead one to suspect that the case at hand is one of meningism, there is but one sure and definite means of deciding the question. This means is the lumbar puncture. This procedure, a few years ago considered to require considerable daring on the part of the physician, is now performed with little more anxiety than is the puncture of the finger for a drop of blood. For a successful lumbar puncture two things only are required, aseptic technique and a familiarity with the landmarks, the direction and the distance to which the needle shall be inserted. As the procedure is now described in all text-books it need not be gone into here and we may pass on to a consideration of the significance of the findings in the lumbar fluid.

The first point to be observed after inserting the needle is the pressure of the fluid in the spinal canal. Normally the fluid should drop from the needle in separate drops at a rate of fifty to one hundred per minute. In meningitis the pressure is so raised that the fluid flows in a stream and may even spurt for several inches. A more accurate means of measuring the pressure is by having a long, very narrow glass tube and a centimeter scale. The tube is attached to the lumbar puncture needle by means of a rubber tube, is held vertical and the height to which the fluid rises above the level of the needle is measured on the scale.* In the normal child this reading should be between 120 and 180 mm. In cases of meningitis it is usually raised to 250 mm. and may go even as high as 500 mm. The quantity obtained from a normal child is 10 to 25 cc. In meningeal diseases 60 cc. or more may be obtained.

In color the normal cerebrospinal fluid is crystal clear. In disease it may be clear except for a slight turbidity or a few shreds, it may be straw colored, opaque and even of a creamy thickness. It may also be bloody. A bloody fluid may be due to the injury of a small blood vessel during the operation of lumbar puncture or it may be significant of cerebral hemorrhage. These are easily distinguished in that in the former case the first few drops of fluid are deeply stained, while that coming away later is free of blood. The blood in case of cerebral hemorrhage comes uniformly through the entire specimen. In order not to be confused by the blood of local traumatism it is necessary to have several test tubes to catch the fluid, the first being used as long as the fluid is bloody, the subsequent blood free fluid being caught in the other tubes and used for examination. In cases of tuberculous meningitis the fluid may be quite clear, it may contain a few shreds, it may be straw colored or it may be slightly cloudy. In purulent meningitis it varies from a cloudiness to a dense white purulent fluid. The fluid should be examined chemically, cystologically and bacteriologically.

The chemical examination consists in a quantitative estimation of the proteins in the fluid. Normal cerebrospinal fluid contains about .01 to .02 per cent. of protein. In tuberculous meningitis it may be increased to .2 to .5 per cent. and may be measured by the Esbach tube. An excellent method of demonstrating the increase in protein, which consists largely of globulin, is by the butyric acid test devised by Noguchi for the diagnosis of syphilis. The test is very simple and accurate. One-tenth cc. of the cerebrospinal fluid is mixed with .5 cc. of a 10 per cent. butyric acid solution in physiological salt solution in a small test tube and then boiled for a few minutes; .1 cc. of normal sodium hydrate is then added and the mixture again boiled for a few seconds. If the cerebrospinal fluid is normal but a slight opalescence appears. If the globulin is increased a heavy granular precipitate separates out and settles to the bottom of the tube in the course of a few minutes. This test is pathognomonic for syphilis, the parasyphilitic diseases or acute inflammation of the meninges.

* Since writing this paper an apparatus has been described by Crohn (*Journal of the American Medical Association,* vol. lvi, p. 962), which would appear to be a useful and practical combination of needle manometer and container for serum. It can be recommended to all those who wish to perform lumbar puncture.

The cystological examination consists in taking a drop of the freshly drawn fluid, placing it, after thorough shaking, on a blood-counting slide and counting the number of leucocytes. In the normal fluid these should not exceed five per cubic millimeter. In tuberculous meningitis they vary from 100 to 500 while in the purulent form of the disease they may be many times this. Another specimen of the fluid is centrifugated, the sediment is smeared on a slide and stained by any of the usual blood stains and a differential count of the cells is made. This procedure gives most valuable information, as in tuberculous meningitis the preponderance of the cells are lymphocytes, while in the purulent form of the disease they are almost entirely made up of polynuclear cells.

The method of making the bacteriological examination varies according to the nature of the fluid. Besides cultures direct examination of the fluid should be made. When the latter is purulent the method is simple and consists merely in smearing a few drops on slides and staining by the usual methods, including the Gram's stain. The Diplococcus intracellularis *meningitidis* occurs in pairs of biscuit shaped cocci inside of the pus cells; they decolorize by Gram's method, whereas the pneumococcus, streptococcus and staphylococcus stain by Gram's method and occur chiefly outside of the cells. When the fluid is clear or but slightly turbid and the question arises of the presence of the tubercle bacillus the procedure is more difficult as the organisms are but very few and difficult to find. Two methods are commonly employed. One consists in centrifugating the fluid immediately, after first adding a tiny shred of cotton to the tube. After prolonged centrifugation the shred is removed and smeared on a slide, the smear then being stained by the usual Ziehl Neelson method. The other, and in some ways more satisfactory method is to allow the tube containing the fluid to stand for some hours. At the end of this time if the meninges are inflamed a fine delicate coagulum is formed in which are imprisoned most of the cell elements and bacteria. This is then removed, spread on a slide and stained. The examination requires expert technique and infinite patience, but with these two requirements the *Bacillus tuberculosis* may be demonstrated in over 90 per cent. of all cases of tuberculous meningitis.

Having then determined by clinical observation and examination of the cerebrospinal fluid the type of meningitis with which we are dealing, the next question to present itself is that of treatment. In the first place it must be understood that if the causative organism is the tubercle bacillus, the pneumococcus or the pyogenic organisms, the treatment is purely palliative; if it be the meningococcus an early diagnosis and proper therapeusis offers now excellent prospects of a complete cure. The palliative treatment may be summed up as narcotics, hot baths and lumbar puncture. The narcotics which give the best results are chloral and the bromides. The sedative effect of the hot bath is most striking. It should be given every three to four hours at a temperature of 110 degrees F. The lumbar puncture, of such inestimable value in diagnosis, has also a distinct place in therapeutics. Many of the worst symptoms being due to the raised intracranial tension, the symptomatic effect of draining the brain and cord is marked. Frequently I have observed, while the fluid was running through the needle, comatose cases to become conscious, and restlessness, convulsions, delirium and moaning to be replaced by a quiet, peaceful sleep. In long drawn out cases the puncture should be performed every second day, and if the pressure is high this may be increased to every day. In one case under my care at the Johns Hopkins Hospital some years ago, the procedure was repeated over thirty times during a period of two months, each puncture being followed by an amelioration of the symptoms, lasting for many hours.

A recent piece of investigation by Crowe, of Baltimore, has demonstrated that the ordinary urinary antiseptic hexamethylenamine administered by mouth is excreted in considerable quantity into the cerebrospinal fluid and has a distinct antiseptic action upon the bacteria in cases of experimental meningitis. Crowe recommends the administration of the drug in all cases of meningitis and of threatened meningitis. It is of especial value as a prophylactic agent and is recommended as a routine in cases of injury to the skull or spinal column and in operations upon the brain through infected cavities as the nose, where meningitis is a probable complication. Crowe states in a personal letter that he has had several cases of post-operative meningitis following removal of hypophyseal tumors through the nose in which the drug has been administered and the cases have recovered. He emphasizes the necessity of giving the drug early as its value is prophylactic rather than curative. He gives it dissolved in water, 100 grains to the quart, in doses as high as 200 to 300 grains every twenty-four hours. In long drawn out cases the question of nourishing the patient presents itself as a troublesome problem. Forced feeding by means of a nasal or stomach tube is usually required and should be begun as soon as the child ceases to take nourishment. The "scaphoid abdomen" is often due to starvation.

With the best of treatment, however, the prognosis in all forms of meningitis, with one exception, is very poor, and all that can be

done is to relieve the distress of the little patient. As a result of the commission appointed a few years ago by the Mayor of New York, the functions of which was to study the epidemic of meningitis at that time raging in New York City, Flexner and Jobling began work on an anti-meningococcus serum, the result of which investigations are well known to all and are rightfully classed among the greatest of the medical triumphs of the world. The serum is obtained from horses immunized by injection of the meningococcus. It differs from the diphtheria antitoxine in that its action is to kill the meningococcus itself, while the diphtheria serum acts to neutralize the toxines produced by the organisms. For this reason it is necessary to bring the serum in direct contact with the micrococci, a result which can be accomplished only by injecting the serum inside of the cerebrospinal cavity. Given hypodermically the serum is worthless. Given by means of a lumbar puncture its effects are truly marvelous in epidemic or sporadic cases of meningitis caused by the *Diplococcus intracellularis meningitidis.* For all other forms of meningitis it is quite worthless.

The usual routine of using the serum consists in making a lumbar puncture, and slowly drawing off at least 30 cc. of fluid. This should be examined for the meningococcus. It is, however, recommended that if the fluid is purulent the physician should not wait for a bacteriological examination, but if possible inject the serum at once, thus saving valuable time. The bacteriological examination should be made before repeating the treatment. The cerebrospinal fluid should be drawn off with the head somewhat raised in order to drain the skull cavity and the injection made with the head slightly lowered. The amount injected should be slightly less than that withdrawn, 30 cc. is the usual dose. The serum should be warmed to the body temperature. The injection should be made slowly and if possible no force other than that of gravity should be used. Occasionally the fluid is so thick that it will not flow through the needle. In this case a few cc. of sterile normal salt solution may be injected first and allowed to return, this often washing away enough plastic lymph to allow the injection of the serum to be made. The injection should be made daily until the temperature falls and the symptoms clear up, and should be renewed immediately on the first sign of relapse.

As to the results to be expected from the serum, these depend somewhat upon the stage of the disease; the earlier the injection is made the better chance there is for a cure. Even in late chronic cases the most strikingly beneficial results have been obtained. In many cases the effect of the injection is immediately, the temperature falling by crisis in a few hours and the symptoms rapidly clearing up. In others the temperature comes down gradually, at times after but one dose of the serum and at other times requiring many daily repetitions of the injection. A point to be emphasized is that no case is too ill for the injection. While I was working under Dr. Holt at the Babies Hospital in New York, an infant was admitted apparently moribund, totally unconscious, pulseless, and with the lungs rapidly filling up from pulmonary edema. No hope whatever was felt for the child, but as Dr. Flexner insisted when giving the serum to hospitals that no selection should be made, but all cases of epidemic meningitis should be given the injection regardless of the patient's condition, lumbar puncture was performed and the serum injected. The cerebrospinal fluid was practically pure pus. The pulmonary edema rapidly cleared up after the injection, which was repeated daily for about a week. The fluid withdrawn each day was preserved and the picture presented by the row of test tubes was truly striking. Beginning with a creamy fluid on the first day the transition was rapid through a small deposit of pus, a turbid fluid and a faint cloudiness in less than ten days to a crystal clear fluid. The patient made a perfect recovery. Under the microscope the change produced by the injection is very evident. Within twenty-four hours the micrococci show degenerative changes, become granular and stain poorly. Their number decreases rapidly and within two to three days a fluid formerly loaded with cocci appears to be quite free from the organisms and cultures from the cerebrospinal fluid are negative.

The effect of the serum upon the mortality of epidemic cerebrospinal meningitis has been carefully studied by many workers, the results being tabulated by Flexner himself. The first cases treated by Ladd in the Castalia epidemic abundantly verified the impressions as to the value of the serum derived from experiments on monkeys. Since then the serum has been sent to all parts of the world, and the report from every user has been of enthusiastic praise. The first reports came from the waning epidemic in America, and for that reason had to be accepted as possibly over-enthusiastic. Later, however, the serum was given a thorough trying out at the height of epidemics in Edinburgh, Belfast, and various parts of France. In practically every great epidemic of meningitis which has occurred in recent years in which the serum was not used, the mortality has ranged between 70 and 90 per cent. Where the serum has been used, and used in unselected cases, every case whether dying or not, being given the injection, the mortality, according to Dr. Flexner's report upon 712 cases tabulated from reports received, was 31.2 per cent., and of cases treated during the first three days of the disease 25.3 per cent. That the change was not due to a milder type of the disease prevailing has been abundantly

proven by such experiences as that in Belfast. The mortality in 275 cases of meningitis treated at the hospital in that city prior to August 31, 1907, was 72.3 per cent. On that date a supply of the Flexner-Jobling serum was obtained and every case admitted thereafter was given an injection. Among the first thirty cases so treated but eight died, a mortality of 26.6 per cent. During the same period the mortality in the same epidemic among cases not given the serum was 80.2 per cent. Especially striking are the results among infants. At this period of life meningitis has always been particularly fatal, mortality lists varying from 90 to 100 per cent. In Dr. Flexner's last analysis he reports 16 cases of meningitis under one year of age, treated during the first three days of the disease with but one death, a mortality of 5.8 per cent. The consensus of opinion is that the mortality of epidemic cerebrospinal meningitis has been reduced by means of the Flexner-Jobling serum from 80 to 25 per cent. and in cases treated early in the disease in which the serum is given a fair chance to from 10 to 12 per cent.

It occasionally happens that the inflammatory products at the base of the brain are so dense that the foramen of Magendie is obstructed and a lumbar puncture is unable either to drain the inflamed ventricles, or to allow of the administration of the serum to those cavities. Such a condition can be diagnosed in the infant by the very small amount of fluid withdrawn and the absence of any decrease in the tension of the frontanelle produced by lumbar puncture. In such cases it has been recommended to insert the needle through the frontanelle directly into the lateral ventricle, wash that cavity with normal saline and inject the serum there. Fisher of New York has had one brilliant result from this intraventricular injection of the serum.

Possibly of even greater benefit to humanity than the immediate life saving power of the serum is the fact that the cases which are cured recover completely. By the former methods of treatment, though occasionally the life of the sufferer from epidemic cerebrospinal meningitis was saved, it was in a great majority of cases to an existence worse than death itself, to a condition of hydrocephalic idiocy, blindness or deaf-mutism. Such terrible sequelæ after serum treatment are conspicuous by their absence. When the child recovers, and if given the serum treatment early in the disease, the chances are all in favor of recovery, it recovers completely.

Much interest has been shown lately in the mode of contagion of the epidemic form of meningitis and its prophylaxis. The consensus of opinion is that the disease is contracted through infection of the nasal mucous membrane and that contagion occurs through secretions from the nose. Not only can the meningococcus be isolated from the nasal secretions of most of the sufferers from the disease, but it can very often be found in the nose of healthy persons who have come into contact with the patients. Several definite instances have been described of contagion by means of such healthy carriers of the meningococci. The chief modes of combatting the spread of the disease at present being used are quarantine of the patient and local antiseptic treatment to the nasal mucous membrane not only of the patient, but also of all those who have in any way come into contact with the disease. Various solutions have been used for this purpose, but probably as simple and effective as any is a one per cent. solution of peroxide of hydrogen used several times a day as a nasal douche and gargle. A few such treatments render the meningococci innocuous and the carrier a safe member of society.

In conclusion I wish to emphasize the importance of an early correct diagnosis not only of the presence of meningitis, but of the particular type of this disease. I wish to lay stress upon the vital importance of performing a lumbar puncture in every case in which there is any symptom casting suspicion upon the meninges. I wish to remind you that this small operation, when performed with perfect asepsis by one familiar with the technique is without danger and is, in most cases, comparatively painless. And I wish to urge upon all the vital importance of making the diagnosis at the earliest possible moment, and when clinical and bacteriological findings demonstrate that the disease is due to the meningococcus of procuring the Flexner-Jobling serum and administering it intraspinally with all possible speed. By such action not only will your patient's chances of recovery be increased four-fold, but if cured he will be returned to life as a useful citizen instead of a deaf mute, a blind man or an idiot.

IS ANYTHING THE MATTER WITH THE DOCTORS?*

By WILLIAM J. ROBINSON, M.D.,
NEW YORK.

IS anything the matter with the doctors? The original title of to-night's discussion was: What is the matter with the doctors? But as that title contained the definite assumption that something *was* the matter with the doctors, it has been modified to a milder form. But even in this form, it assumes that something is the matter with them. Otherwise the question would not be asked. We do not ask: Is anything the matter with the chemists? Is anything the matter with the physicists? Is anything the matter with the astronomers? Is anything the matter with the electrical engineers? And the reason we do not ask this question in reference

* Delivered before The Liberal Club of New York, March 15, 1911, at a discussion participated in by the following: Upton Sinclair, Samuel Hopkins Adams, Norman Hapgood, Robert T. Morris, M.D., Woods Hutchinson, M.D., and William J. Robinson, M.D.

to them, is because we know or assume that they are all right. We assume that they know as much as can be known at the present time, with the accumulated facts and the instruments of precision in their possession. And by asking the question: Is anything the matter with the doctors, you at once betray that you have a lurking suspicion or the positive certainty that something *is* the matter with us. And there is no use denying that such a suspicion or certainty is harbored by a large number of people, particularly of the cultured, or perhaps more correctly, the quasi-cultured classes.

The so-called health journals, practically all of which are edited by men who have axes to grind, and who are perfectly innocent of any knowledge of medicine, are doing their utmost to foster suspicion and fan distrust in the medical profession. A sensational book, which claims to depict the chaos and crime in the medical profession has recently been published and is exerting a pernicious influence on the public, because the focus through which it presents the facts or alleged facts is false and the picture is therefore false and distorted. The quack journals, sensational and untruthful books, and a few ignorant laymen who pretend to assume the role of physicians, have been inciting the public against the medical profession, and by bringing false charges against us, have partly succeeded in creating a feeling of animosity and distrust. You know how critical and analytical our dear public is: You can make it believe anything if you have only enough assurance and impudence; the more stupid, the more sensational the accusations, the more readily will they be believed.

Let us see what the charges against the medical profession are, what indictments a biased, inimical and ignorant jury has drawn up against us.

The Terrible Crime of Using Drugs.

The first and the most universally heard charge against us is that we are drug dopers. That is, we do not treat people rationally, hygienically, by the aid of diet, fresh air, sunlight, etc., but that for every condition we give drugs, that we fill the people's bodies with poisons and that by our drugging we often create worse diseases than those we intended to cure. This charge is repeated day in and day out by the quack health journals, which I referred to above. To speak out of the utility, of the indispensableness, of the life-saving properties of a large number of drugs is not the place here. I will merely repeat what I have said elsewhere, that he who has seen the lesions of syphilis melt away under the administration of mercury, iodine or 606; he who has seen the chills and fever of malaria disappear as if by magic under a properly administered dose of quinine or arsenic; he who has seen a miserably dwarfed, imbecile little cretin grow in stature and gain intelligence from day to day under the use of thyroid; he who has seen the pale cheeks of the chlorotic or anemic girl change into red roses under the administration of iron and arsenic; he who has seen a waterlogged old man or woman, unable to take a step without getting out of breath, take on a new lease of life under digitalis; he who has seen a nasty diphtheritic membrane roll away as if by the touch of a magic wand after a dose of antitoxin; he who has seen the fearful, torturing pain in a case of renal or gallstone colic cease instantly after an injection of morphine; he who has seen the life-saving effect of a few drops of amyl nitrite in a case of angina pectoris; he, I say, who has seen all those things will not agree to cure the sick without the use of drugs. And I will say, that if you will show me a man who absolutely denies the utility of drugs, I will show you a man who has never used drugs or who is ignorant as to their proper use.

But as to the charge that drugs constitute the principal factor in our treatment, I can only say that such a charge is maliciously false. Drug-treatment constitutes only a small—a very small—part of the modern practice of medicine. There is not an agent or method, material or immaterial, that we, members of the regular medical profession, do not employ in the treatment of disease. Regulated diet, exercise, water internally and externally in its numerous hydrotherapeutic methods, mineral waters, baths, direct sunlight, fresh air, heat in its multitudinous forms, massage, electricity, roentgeno-therapy, Finsen light, radium, antitoxic sera, vaccines, suggestion (psychotherapy), hypnotism, all of these agencies we, regular scientific physicians, make use of freely in our endeavor to cure and to prevent disease. We may use only one of these agencies in the treatment of many of the diseases, but we do not hesitate to use all of them whenever they seem indicated.

A Handbook of Practical Treatment has just come off the press. It is authoritative and presents the latest developments in the treatment of disease as it is practiced by the regular medical profession. The first 16 chapters deal with the general treatment of disease, and of these 16, only one is devoted to drug therapy.

Take Osler's Practice of Medicine, and you will see that drug treatment is playing a very secondary role, one might say an insignificant role, in the entire book. Inquire at, or study the reports of our foremost hospitals and you will see that drugs play a very secondary role. Nursing, hygiene, proper feeding, cleanliness are our chief agents in fighting disease. But, contrary to the quacks, we know the indications for drugs, we know the proper use of drugs, we know where they are invaluable; and when we do need them, we can use them fearlessly and unhesitatingly.

Surgical Operations.

Another serious charge refers to surgical operations. By one part of the people we are at-

tacked for performing any kind of surgical operations, by another part we are accused of performing surgical operations too frequently, in many cases where they are not at all indicated. To the first charge it is not necessary to reply. He who denies the necessity of any surgical operations, he who denies that very often a surgical operation offers the only chance of saving a life, as is done by many of our "No Knife" quacks in the quack journals, puts himself outside the pale of rational thinking beings, and no discussion is possible with such a person.

As to the second charge, I must confess that it is true of a small number of our profession. It is true that operations are sometimes performed on people who would be better off without them. But this is not due so much to greed and moral perversion as to a certain bias, of which none but the broadest-minded of specialists can be free. A man who is working in one line often becomes narrow and seeing many brilliant successes from his operations, he becomes unconsciously biased in favor of operations. And as it is true that in many cases an operation will do in two weeks what medicinal and hygienic treatment will not accomplish in years, it is not surprising that some surgeons are inclined to give the patient the benefit of the operation, where perhaps an internal physician would consider the operation contraindicated or not at all indicated.

It is true, however, that there is a small percentage of physicians who are devoid of conscience and who will do almost anything for the money. But this is not anything special and unique, it isn't something peculiar to the medical profession. Rascals and brutes are found in every profession, in every trade, and will be found in every profession and every trade as long as we live under our present beautiful competitive system. And the entire profession should not be held responsible for the misdeeds of a few.

The Practice of Abortion.

Another charge against the medical profession is that it is guilty of the practice of abortion. That the entire profession is guilty of this practice is, of course, false. That a large number of physicians—the percentage is, of course, impossible to state with definiteness, but I would say anywhere from 10 to 25 per cent.—are practicing it habitually is true. But I would not blame the profession very strongly for it. It is the state that is to blame for this condition of affairs. Wherever there is a demand there will be a supply, and the demand for abortions is tremendous. The layman has no idea of the frequency of the demand and of the tremendous pressure that is brought to bear upon the medical profession. I venture to say that for every abortion performed by a physician, at least one hundred demands, requests and pleading supplications are refused. If this were not so we would not have the thousands and thousands of non-medical male and female abortionists, who thrive throughout the country. A million abortions, at a very conservative estimate, are performed annually in the United States; and I am sure that 75 to 90 per cent. of them are performed by non-medical and professional abortionists, who are outside the pale of the medical profession.

Are We Attempting to Form a Monopoly?

Another charge that has been heard a good deal of late is that we wish to form a trust, a monopoly, and that we intend to compel everybody to treat patients according to our own methods. How absurd this charge is will be seen at once if I mention that in the New York State examinations, for instance, no questions are asked on therapeutics or the treatment of disease. We do not wish to interfere with anybody's methods of treating disease. We leave that to the conscience and good judgment of the individual physician. And our only demand is that they who undertake to treat human diseases show that they have spent some time on the study of the anatomy and physiology of the human body and on the pathology and symptomatology of its diseases.

Our examination questions are only on subjects which admit of no discussion, which are accepted by everybody, the same as problems in chemistry or physics are unversally accepted. All uncertain or debatable points are entirely left out from our examinations.

We Make Mistakes.

Another charge against us is that we make mistakes, that we do not always diagnosticate the diseases correctly and that we do not always treat properly. That is true. We do not claim to be infallible, we do not claim to be omniscient. Medicine has not yet reached finality, medicine as a science is, as I explained many times before, but half a century old, and some diseases are so obscure, so complex, that with the present state of our knowledge a mistake is occasionally unavoidable. But we are fighting hard to remove the veil from Nature's secrets and every year we know more and more, and our mistakes are becoming fewer and fewer.

Please remember that it is but yesterday that we began to use the same methods in investigating medical problems that are used by other exact sciences. And our reward has been rich indeed. To mention but one of the scourges of humanity, namely, syphilis. We have learned more about that disease in the last five years than in the preceding 500 years. The cause of the disease—the spirochæta pallida; the best means of diagnosing the presence or absence of the disease in the system—the Wassermann test; and one of the most powerful remedies in the treat-

ment of the disease—606 or salvarsan—have all come to us within the last five (to be more exact, five and half), years. The same may be said about cerebro-spinal meningitis. Three years ago we stood before that monster humble and helpless; now, thanks to Flexner, we have a powerful weapon, and we wrest many victims from the monster's clutches. And I venture to say that if in five years from to-night you arrange a similar dinner, I shall be able to tell you of some very remarkable discoveries made between March 15, 1911, and March 15, 1916.

But do the quacks, the irregulars, and those who believe with them, appreciate the fact that when they announce with glee that physicians make mistakes, they thereby pronounce their own doom? For, if physicians who have spent several years in preparatory studies, who have had years of practice, who have every possible diagnostic instrument, who call to aid the chemical, pathological, bacteriological and biological laboratory, make mistakes, how can the quacks and faddists expect rational, sane people to believe that they, who have not any of these advantages, can diagnose correctly and treat properly?

Personal Experience Shapes Our Opinions.

We are no more responsible for our honest opinions than we are for the color of our hair, the length of our faces, the girth of our chest. Our opinions are the conglomerate result of heredity, environment, our bringing up, our companions and friends, the school we attended, the lectures we have heard, the books we have read. Our personal experiences have a tremendous influence on the shaping of our opinions. And it is possible that the unfavorable opinion which some laymen have of the medical profession is due to some unpleasant personal experience which they have had with some member. And it is possible that the favorable opinion I have of the medical profession is due to my exceptionally favorable experience with my colleagues. God gives us our relatives, our friends we choose ourselves. But I can truthfully say that the physicians whom I call friends are not guilty of the things with which our opponents are fond of charging the medical profession. I can sincerely say, that the physicians whom I know, are noble-minded and sincere, are always studying and investigating, are sympathetic with the suffering, are up to the minute with all the latest advances in medicine, are careful and conscientious in diagnosis, are rational in their treatment, using drugs only where distinctly indicated, employing every hygienic measure, relying, to a great extent on good nursing and dieting, and upon the vis medicatrix naturæ, never prolonging a disease, never making an unnecessary visit, never operating or advising an operation unless positively indicated—in short, they are honest, capable men to whom the public can entrust their bodies with implicit confidence. Of course there are incompetents, and there are dishonest men in the medical profession, as there are in every profession, in every trade, in every line of human activity. But when we judge of a profession we judge it by its highest representatives, or at least by the rank and file, but certainly not by its worst specimens. And the rank and file of the medical profession is sound to the core. It is sincerely desirious of learning and advancing, it is sincerely desirous of doing its best for humanity. It reads, studies and investigates and is earnestly doing the best that can be done.

The Spectre of the Seventeenth Century.

The trouble with our friends is that they set up a man of straw and then proceed to demolish him. They see a medical spectre of the seventeenth or eighteenth century and imagine that that is the physician of to-day.

Just as some of our free-thinking friends see a Torquemada in every priest or minister—they will not admit that there are quite a few decent people among the clergy of to-day, people with broad minds and big hearts, intensely interested in the welfare of humanity; just as our anarchistic friends still see a Phillip the Second or an Ivan the Terrible in every ruler—you cannot make them believe, for instance, that George V and William H. Taft are quite human, and, while certainly no geniuses, are at least as intelligent as the average Englishman or American,—so our anti-medical friends see with their mental eye an old, bewhiskered gent (Elbert Hubbard who has become one of the most obnoxious of quacks always pictures the doctor as a man with whiskers) with a big syringe, with a blood-letting lancet, with chisel and saw, with powerful emetics and cathartics, with balls of opium and pocketfuls of calomel; a gent without any culture, narrow-minded and hide-bound by tradition, without any knowledge of hygiene or sanitary measures, having no idea of ventilation, fresh air, dietetics, the power of suggestion and the other immaterial agencies. Such is the picture some of our friends have of the modern medical man, or at least that is the picture they try to show to a gullible public—and they proceed to hammer it, stab it, tear it to shreds and tatters and to show to the same gullible public their own superiority. No wonder they succeed.

That the picture is false and distorted—maliciously or ignorantly—goes without saying. The physician of to-day is a cultured man with a good preliminary education—and the entrance requirements are getting higher and higher—a good medical education, and he is a critic, a skeptic and quite often he is a true scientist.

That we do not yet know everything, that some diseases, cancer for instance, still baffle us, is true. But there is a great difference between not knowing everything and knowing

nothing, and as said before, every year we learn a little more. But one thing is sure: What *we* can't do, the quacks and irregulars surely cannot.

What We Have Accomplished.

I have touched upon and answered the charges which our enemies are making against us. Let me now devote two or three minutes to a consideration of the benefits which we have conferred upon humanity, but which our enemies forget to credit us with. To state that medicine is advancing from year to year, and that from year to year we are improving in our diagnosis and treatment of individual patients must be in the nature of a mere assertion, for our enemies deny it. There are two things however, which they cannot deny—for the *world* has them on record.

One is that wherever medical science is in an advanced state the mortality rate has been enormously reduced. The second is that by having conquered the mysteries of the transmission of malaria and yellow fever, and by applying rigid sanitary measures, we have rendered many tropical and subtropical places habitable which were uninhabitable before, and have converted many pest-holes into the healthiest spots on the globe.

Let us see what the reduction of the mortality rate means. I shall not go very far back, though the figures would prove more striking and more startling. But right here in New York City we have within the last fifteen years reduced the death rate per 1,000 inhabitants from 25 to 16. In other words, instead of 25 people dying every year per each 1,000 inhabitants, only 16 die—a saving of nine per thousand—or 9,000 per million, or 36,000 per four million—the population of New York City. What an annual saving of human lives it makes throughout the country or throughout the civilized world you can calculate for yourselves. For everywhere is the same story. In Berlin, for instance, the mortality rate fell in 25 years from 33 to 16—a saving of more than 50 per cent; in Munich from 41 to 18 and so forth and so forth. Our statisticians are in the habit of estimating the value of human lives in dollars—at such an age we are worth so much, at such an age so much. To me this method is rather revolting—revolting in itself, and because in my opinion many lives are worth nothing, others are worth less than nothing, in other words, have a negative value, while others are worth not four thousand dollars—which is the highest value put on a human being by the political economists—but forty millions. But if you are fond of estimating the value of human lives in dollars, you can readily see how many billions we save to the world every year.

As to the places which have been converted from pest-holes into summer resorts, with summer resort mortalities, we need only point to Panama. And it is not the quacks and the detractors of scientific medicine who have done it, but the regular physicians and the sanitarians who work hand in hand with us.

Conclusions.

1. The medical profession of the present day is fully alive to its duties and its responsibities.

2. Medicine of to-day is thoroughly scientific in its methods, employing the same means of experimental investigation and demonstration as are employed by the other exact sciences.

3. Medicine of to-day is not shackled by the chains of authority and tradition. On the contrary, every dictum of any so-called authority, any statement regarding any drug or method of treatment, which has been handed down for ages from text-book to text-book, is called into question, is carefully analyzed and dissected, and if found wanting, discarded. Many drugs which were considered stand-bys by our forefathers have been thrown out from the Pharmacopeia, though they may still be used by old grannies.

4. The profession of to-day is broad-minded and is willing to investigate any remedy or method of treatment, no matter from what source it may come; it is willing to give a trial to any suggestion if it has a grain of common sense in it; even if the suggestion comes from a quack.

5. The evils which the medical profession is guilty of are not inherent in the medical profession as such; they are the result of our social conditions, of our immoral competitive system, which makes men fight and cut each other's throats in order to make a living, and these evils are much more in evidence in other trades and professions; the legal profession for instance.

6. The medical profession not only does its duty by the public, alleviating suffering, restoring hundreds of thousands of men and women to health and active useful lives, but we are making progress from year to year, we are making new discoveries, dealing with the larger problems, increasing the average duration of life, improving sanitation, etc. In short, we deal now not only with individual, but with national problems.

7. In judging of the life of any man, of the activity of any party, of the value of any movement, of the achievements of any profession, we do not take any single acts or incidents, but we take the sum total. If we take the sum total of the activities of the medical profession, if we subtract all its shortcomings, if we admit even everything our enemies say about us, the balance of good is overwhelmingly in its favor, and it can truthfully be said to be the most beneficent, the most progressive, the most humane and the most altruistic of all professions.

And therefore to the question: What is the matter with the doctors? I must answer:

There is nothing the matter with the doctors. They are all right!

THE SECRET DIVISION OF FEES.

By J. BRETTAUER, M.D.
NEW YORK CITY.

GENTLEMEN:

I AM fully aware of the difficult and unpleasant task which I have undertaken in bringing this subject before you this evening. However, as this honor—and I certainly do consider it such—came to me unsolicited, I will endeavor to treat this subject in a fair and unbiased manner.

There are two facts which I regret keenly. The first is that this matter should have been brought before you under the auspices of an association which is not a strictly medical one, and the other, that the place selected is not one devoted exclusively to medical matters, such as the Academy of Medicine. The latter circumstance might lead the public to believe that the subject under discussion pertains only to a certain part of the profession, located in a certain district, whereas in reality it vitally touches the entire profession, Jew and Gentile alike, the east side as well as the west, uptown as well as downtown.

By the secret division of fees, we understand the division of a fee between medical men, without the knowledge of the patient. This practice has gradually become so extensive that to-day it is not limited to one or more restricted areas of the country. This is amply proved by the fact that several state and county societies of the United States have found it necessary to inaugurate measures toward its restriction or prevention.

In New York State about one year ago, the Erie County Medical Society took the initial steps in this direction. An address delivered by Dr. M. D. Mann, of Buffalo, at a meeting held on February 1, 1910, resulted in the appointment of a committee to investigate the entire subject, including the causes and their possible remedies.

The report of this committee has been published in the medical papers, and should be sufficient to convince even those who for one reason or another are still loath to believe in the existence of this evil, which to my mind, not only degrades those indulging in it, but debauches the profession at large.

Its existence was demonstrated to me personally as long as twenty years ago, when I was asked to open a pelvic abscess by a colleague. "What is there in it for me?" was the question asked. I leave you to infer the answer.

Some months after I was appointed Adjunct Attending Gynecologist to Mt. Sinai Hospital, two colleagues visited my office by appointment. They informed me that they represented a large body of physicians who had had occasion to watch my work at the hospital, and who were desirous of having me as their consultant in gynecological cases. Imagine the pride which this recognition of one's work would create even in the most modest individual. However, this feeling was of short duration. "As most other consultants were in the habit of doing—names were mentioned unhesitatingly—so would I have to relinquish a part of the fee to the physician in charge."

I assure you that I lost no time in terminating the interview and my good work, so well liked, had lost its value in their eyes.

These and scores of similar instances occurring in the practice of other physicians, prove sufficiently how widespread this practice has become in this city. It is beginning to, or already has, undermined the standing of the medical profession in this community. The people at large have good sense and good judgment. They soon find out with whom their interests are safe and who are the business men in the profession.

This practice of dividing consultation fees and giving commissions for referring patients, not less than accepting commissions from business houses (druggists, instrument and truss makers) is nothing but business and a thoroughly bad one at that. We all know that this is an age of commercialism and that money is the all-desired goal, but we also know that medicine cannot be conscientiously practiced as a business is conducted. It is the right and duty of every physician to make his profession support him and assure the future of his family, but to translate his patient's necessities into opportunities to enrich himself, is commercialism run to riot.

The causes which have led to the secret division of fees between physician and specialist, either for operations or consultations, are easily traceable. The first and most obvious cause is the overcrowding of the profession, caused by the entrance into it of men whose principal aim is the desire to make of medicine a commercial proposition.

Fortunately this overcrowding is already limiting itself in the eastern part of the country. The number of men entering the medical schools has decreased, due, no doubt, to the higher standards required and the prolonged course of study. This overcrowding naturally makes it harder for all concerned—the general practitioner, the surgeon and the specialist—to secure their fair share of patronage. Those of a lower moral standard find a remedy in combinations which result in the business transaction. Competition among surgeons themselves, not only among beginners, but among those already established, is responsible for much of this evil. They often vie with each other in the offers made to practitioners. Even if all were equally competent, the moral aspect of the situation would not be improved; but it becomes infinitely worse when incompetent operators are chosen by the family physician, simply because they give up a larger percentage of the fee.

* Buffalo *Medical Journal*, April, 1910.

The low character of a great many medical schools in this country, must not be forgotten when searching for causes for these degrading practices. These schools have no standard of education, either general or medical, and are only interested in the amount of money which can be collected for issuing diplomas. It is for their graduates, it seems to me, that such books as "Large Fees and How to Get Them" are published. Another cause might be found in the abuse of hospitals and dispensaries. I shall not dilate upon this particular phase, as it will be fully dealt with by Dr. Goldwater at a subsequent meeting.

What are the effects of this practice of secret fee-splitting? In analyzing them I am following in the footsteps of Dr. Mann, whose arguments contain in full, what I wish to state more briefly.

The effect on the general practitioner whose aim is money and not the healing of the sick, is soon demonstrated by the mistakes he makes in his work, by the carelessness shown in his diagnoses and by the rashness of his conclusions. His feelings toward his patients change—"instead of friends to be helped and protected, he looks upon them as victims to be plucked."

The effect upon the operator is even more lamentable. His best asset, "his keen surgical judgment," becomes a "pocket-book" judgment. Indications are found for operation where none exist. This is the only disadvantage of the progress in modern operative surgery. Interference has become so safe that it practically allows the surgeon to disregard the operative risks.

The patient usually suffers most. First, the decision for or against operation is not unbiased; second, he is almost always placed in the hands of an inferior operator, because the percentage of commission increases with the decrease of capability; finally, he must pay a larger fee, because, to fulfill his agreement, the surgeon has to charge more.

Altogether, the effects of such practices are clearly deleterious, and all concerned suffer by them. The profession at large suffers most, however, in the esteem of the public.

Advocates of these methods sometimes try to justify or cover up the division of fees, by employing the family physician as an assistant at the operation and paying him—at times openly—far above the value of his services. These services are often merely nominal. No surgeon of any repute will allow men who are not accustomed to his work to assist him. If he does so, he certainly does not act in the best interests of his patients.

Another, and on its face, more just excuse, is the claim that the doctor is not adequately paid, that his services at times are of much more importance than the surgeon's. Surely no one will dispute this, but who is to blame but himself if he does not get his just reward? Does he insist upon his claims, does he explain to the patient why he should be adequately remunerated, does he ask the surgeon to help him in his attempt to convince the patient of the value of his services? No, he does none of these things. It is much easier to graft on the willing surgeon. I have known of instances, however, when the physician has looked out for his own interests in the above manner, and blackmailed the surgeon at the same time.

Clearly, from a moral point of view, there is only one side to this question. I am glad to be able to say that according to my experience, a comparatively small number of practitioners and surgeons indulge in these practices. The profession at large stands as high as it ever did. I have faith in the profession as a whole and am confident that it will stop all attempts to degrade it, when once fully aware of the facts and aroused to the necessity for action.

But this question is not entirely a moral one. It has its economic side as well. In this age of industry, the cost of living has materially increased. The necessities of life, the education of the physician, his equipment and the demands made upon him, have all been greatly augmented. In spite of this, the remuneration of the average practitioner of medicine has not grown larger, perhaps it has become even smaller, through competition. The doctor is one of the few men in the community whom the great eras of prosperity have left untouched. The primary cause is again found within the profession itself.

Doctors as a class have as yet made no attempt to demonstrate to and convince the public of the increased importance, and consequently the increased monetary value of their services. The service rendered by the family physician is in some instances of infinitely more importance than that rendered by the specialist and should be rewarded accordingly.

Who is to educate the public to see matters in this light, if not the practitioner himself? I am quite sure that he would have the ready endorsement and aid of his colleagues, the specialist and the consultant. Does this regrettable state of affairs for which the physician himself is responsible, offer sufficient excuse for him to appeal to the sympathies of some men and demand additional reward from others?

Now a few words as to the surgeon or consultant. The conscience of the physician is his safeguard. It forms the basis of the confidential relations between him and his patients. This is true to an even greater degree of the surgeon. No surgeon who employs agents, be they doctors or others, to bring cases to him, can avoid doing unnecessary, illegitimate and dishonest work.

Such a man is in the long run bound to face irretrievable ruin. He will be buying cases, not winning them through merit. He is employing unfair competition against his more competent colleagues, and is bound in time to become dis-

honest in other respects as well as in his practice. Of course, he will accumulate money, but he has trampled on the ideals of a profession which has given him his opportunity in life.

Signs are not lacking that these practices are on the increase. The mere fact that I was asked to speak on this subject is sufficient proof. The time has come when the profession at large, in its own interest, will be compelled to find means to stop them.

I am not referring to practices in which actual fraud is committed. These are fortunately rare, and when proved, easily dealt with by the public prosecutor. What I have in mind, is solely the giving of commissions and the splitting of fees, practices which, *per se,* do not come within the jurisdiction of any court of law, but which are nevertheless degrading to the medical profession and against the best interests of the public.

The few who are steeped in the practice of such methods will not be affected by whatever is said against them. They know that on account of its secret character, in which all the parties concerned are interested, it is very difficult and usually impossible to procure *prima facie* evidence. The practice will continue until the public itself becomes aware of it. To effect such an awakening, wide publication of the facts is advisable.

The man whose conscience has not yet become entirely blunted by the financial returns and whose belief in the nobility of our calling is still present, will probably feel impelled to reconsider his relations to his patients and to the profession, and will endeavor to help elevate our standards rather than to degrade them.

The present moment is particularly crucial; a time at which the profession must be able to present a united front, in order to combat successfully the increasing number of irregular practitioners, Christian scientists, osteopaths and anti-vivisectionists.

The Western Surgical Association has taken definite steps to do away with the practice. The Executive Council eliminated a number of applicants for membership from the list of eligibles, because of authentic knowledge of such practices on their part. They went a step further, moreover, by striking a few, who were already members, off their rolls, because of the practice of fee-splitting and commission giving.

This is a good beginning. Specialists, and not infrequently prominent specialists, inaugurated the pernicious practice now under discussion, and therefore, it is particularly gratifying that measures for its elimination should originate with them.

The Erie County Medical Society has offered suggestions as to the methods to be pursued in effecting reforms.* These have been published and are easily accessible. The summary of this report includes higher standards of education, and continuous discussion and airing of the subject before representative medical societies, thereby insuring wide publicity.

Should the future show that these methods are still practiced in spite of all attempts to limit or do away with them, there is to my mind only one way of preventing them as a common occurrence. Legislation should be resorted to, with the view of enlarging the punitive powers of the Board of Regents, so that the Committee of Medical Examiners appointed by them, will have the right to investigate not only crimes in law which are already clearly defined, but also actions which are prejudicial to the high ethical standards of the profession.

With the aid of the high-minded members of the profession, fee-splitting and similar graft can be abolished. Physicians who have been approached or tempted, should not hesitate to obtain proof legally valid, and should place it at the disposal of their county associations.

In conclusion I beg to enlist your hearty cooperation in the reform movement which is just beginning. By precept and example, by encouragement and sympathy with its aims, you can assist in the good work. The change is bound to take place. It rests with the members of the medical profession, whether higher standards are adopted voluntarily by them, or are eventually forced upon them by a justly incensed public.

* Buffalo *Medical Journal,* March, 1911.

TWO CASES OF PROSTATIC HYPERTROPHY SUCCESSFULLY TREATED WITH THE X-RAY AND HIGH FREQUENCY CURRENTS.*

By SINCLAIR TOUSEY, A.M., M. D.,
NEW YORK.

THE two cases reported are not the first ones in the literature of the subject or in the author's own practice. They are selected because they are the two most recent cases in his practice and because they have been treated by a technic which commends itself as probably the best at the present time. This treatment consists in the application of the X-ray through a screen of sole-leather which absorbs the rays which would be absorbed by the skin and produce dermatitis with little or no influence upon the deeper structures. The X-ray was applied to the perineum through a cylinder either three or five inches in diameter which limited the field of exposure and protected the scrotum. The application of high frequency currents was an external one through a glass vacuum electrode applied over the perineum and later over the hypogastrium.

CASE I.— Mr. I. A., referred by Dr. H. R. Armstrong, began to have difficulty in micturition ten or twelve years ago and was then examined by Dr. Keyes who found prostatic hypertrophy and recommended the use of a catheter.

* Reported at a meeting of the Surgical Section of the New York Academy of Medicine, January 6, 1911.

This was done three or four times but with so much distress that the patient gave it up. During these years there have been some retention, hardly any pain, but a numb feeling at the neck of the bladder. Frequency of micturition has been the symptom giving most trouble. The patient had to get up twelve or fourteen times each night. A radiograph was made which excluded vesical or prostatic calculus as a cause of the symptoms. Treatments were given three times a week from March 25, to May 31, 1910. By April 8th, micturition was reduced from fourteen to three or four times a night and by April 27th, only two or three times a night, and the patient came seventy miles on the railroad train without having to urinate. The end of the course of treatment left him apparently in a normal condition and his physician reported on December 1, 1910, that there had been no return of trouble.

Case 2.—A man of 73, a patient of Dr. A. D. Rockwell, had been treated by our best urologist for some years for enlargement of the middle lobe of the prostate. At the worst there had been eight ounces of residual urine but this had been reduced to four ounces. He used a catheter every morning and was advised to have an operation. As he came under my care the last week that I was in the city I applied a complete dose of X-ray in three treatments, June 22, 24 and 28, 1910. His report on November 9, 1910, was that there had been very great improvement; he no longer used the catheter and there was much less frequency of micturition. Residual urine continued to be four ounces. A second course of treatment was given three times a week from November 14 to December 5, 1910, and before the latter date he reported that he was able to go to bed at 11 P. M. and rise at 7 A. M. without having to urinate in the meantime.

This method of application does not subject the patient to the discomfort of an intra-rectal treatment, and the skin is usually unaffected. Dr. L. Bolton Bangs has made a most valuable observation upon the effect of X-ray treatment in prostatic hypertrophy. It is that in some cases which he has operated upon after X-ray treatment he has found more difficulty than usual in enucleating the gland. The latter seemed to have undergone a fibrous change. I don't know what technic was used in applying the X-ray in these cases but Dr. Bang's observation goes to show that the X-ray cannot be relied upon as a preparatory treatment before operation. In my own practice its use has been with a view to removing the necessity for operation and in only one of my cases, to my knowledge, has a subsequent operation been performed, and in this case no difficulty was encountered by the surgeon. The case referred to in which the X-ray failed to relieve prostatic obstruction occurred in a young man, a patient of Dr. E. Y. Hill and proved to be due to a congenital malformation and not to hypertrophy.

CORRESPONDENCE.

VENESECTION AND SALINE INFUSION IN PNEUMONIA.

To the Editor of New York State Journal of Medicine:

Sir: The plea made in your May issue by Dr. James S. Waterman, of Brooklyn, New York, for Venesection in Pneumonia, followed by Saline Infusion, at a relatively late stage of the disease (4th to 9th day), is certainly called for at the present time. It is evident at times, especially in instances in which general pulmonary edema occurs, with other imminent symptoms, that blood letting alone will save life.

Personally, I am now more in favor of the use of leeches than of venesection.

I do *not* advocate, as I did formerly, saline infusion after bleeding, even when venesection is employed, because I have been witness of resulting harm.

Unless done with great care, slowly, and with moderation, it causes again right cardiac dilatation, which was the essential threatening condition venesection relieved. Saline enemata are quite as useful and do not occasion subsequent fatal outcome.

What we should insist upon far more than we do, and especially in private practice when we see Pneumonia in the beginning, is blood letting in the initial stage with leeches, and particularly, when there is much local pain, pulse of high tension, and rapidly increasing temperature.

With continuous creosote inhalations from an *early* period of the attack, and this means to diminish inflamation, we should have fewer deaths to deplore than with other methods of treatment.

By the mouth creasote, as creasotal may, or may not be given, but the two other aids to cure are, in my judgment, imperative.

Beverley Robinson, M.D.

New York, May, 1911.

To the Honorable William Church Osborn and George E. VanKennan, Commissioners to Examine State Departments:

Gentlemen:

In obedience to your request to make an examination of the inmates of the Matteawan State Hospital, with a view to determine whether any "persons are confined therein who are fit for discharge, or for being sent to trial, as the case may be," we have the honor to report as follows:

At the beginning of our investigation, the inmates of the Hospital numbered seven hundred ninety-three. Of this number, we were able to examine without difficulty seven hundred sixty-one. As will appear further on, thirty-two refused examination, but these were seen by us and questioned. The examinations were made on April 11, 12, 13, 14, 19, 20, 21, 22, 1911; and the results are given in detail further on in our report, with comments on nineteen cases which seemed to us to call for special consideration.

In one instance, a vicious assault was made in our presence by a violent Paranoiac upon an attendant, which illustrates the dangers to which attendants, and indeed, the officers of the institution, are exposed in the performance of their duties. These dangers are all the more serious as there is an eminently proper rule of the hospital which forbids attendants to carry any weapon or implement of defense; so that they must rely entirely on their coolness, judgment and physical strength in cases of violence by these dangerous and irresponsible persons. A recent murderous attack upon the Superintendent by an apparently harmless inmate shows that no one in the institution, who is brought in contact with patients, is free from danger to life

or limb. It is to be remembered that nearly forty-six percent (362) of the inmates were guilty of crimes against the person, including eighty-seven cases of murder in the first degree. In the large majority of cases, these offenses were committed by Paranoiacs suffering from delusions of persecution; and all alienists are agreed that the "persecuted Paranoiac" is the most dangerous of the insane. These Paranoiacs usually present no mental deterioration; and they are cunning enough to deceive the ordinary observer in regard to their mental condition, which may in a measure account for the aid they often receive from lawyers, courts and the laiety, in their efforts to obtain release when confined in institutions.

It is easy to understand that in an institution which contains three hundred sixty-two insane who have committed offenses against the person, many of these being homicides, by persons still homicidal, a discipline must be maintained, much more rigid than is necessary in a civil hospital. The intelligent Paranoiacs especially are in a condition of constant unrest; and even one or two leading spirits of their number may so work upon this dangerous element as to render its repression and control extremely difficult. One case in the Hospital, which has not been specially referred to elsewhere in our report, is a striking illustration of this:

A Sicilian, who is described in our report of examinations as a "homicidal Paranoiac," became possessed of a revolver and a number of cartridges. He also had obtained some strips of iron which he had fashioned into sharp-pointed stillettoes and given to certain other inmates. Information of this was given to one of the medical officers by an inmate who refused examination but was recorded as "showing paranoid delusions." While not giving absolute credit to this revelation, which included a story of a plot to murder the Superintendent and the First Assistant Physician, the physician in charge caused several searches of the accused to be made at certain intervals. Finally a general search of the ward was made at an unexpected time, and the weapon was found in a bag belonging to the Sicilian. It had been observed that this man had been friendly with some of the most intelligent and troublesome of the homicidal inmates. He and the inmate who disclosed the alleged plot were interrogated by us. It has thus far, however, been found impossible to ascertain how the man obtained the weapon. His own declarations as to this were not regarded as trustworthy. The man now claims that the officials of the Hospital are prejudiced against him, that he is sane and that he should be returned to the courts for trial. He is now clearly insane, cunning, plausible, vindictive, irritable and very homicidal. We believe that the spirit of unrest and resistence to discipline is fostered by popular agitation on the question of management of the Hospital; as patients are well informed on this subject, having free access to the newspapers.

While, perhaps, it was not expected that we should make suggestions or recommendations in regard to the general management of the Hospital, we feel inclined to note certain changes that we think would be beneficial:

(1) A certain number of harmless Dements, who are able to do some work and do not require the strict discipline to which all inmates are subjected, might be removed from the building and segregated in a detached building outside of the Hospital enclosure. This would in a measure relieve the present congestion of the wards.

(2) Under the Insanity Law, all female convicts becoming insane while undergoing sentence are sent to Matteawan. It would be for the good of this institution if, at the least, female convicts becoming insane while undergoing sentence of more than one year should be sent to the Dannemora State Hospital, the same as male convicts. The mixing of the old convicts with those indicted for a misdemeanor or undergoing sentence of one year or less is not desirable.

(3) A careful review of the personnel of the Hospital might result in the transfer of a few inmates to other institutions or possibly to the care of friends. Such an investigation we did not attempt; and, indeed, it was beyond the scope of our instruction.

It is but fair to the Hospital to say that in no instance did we find an inmate wrongfully detained or one subjected to inhuman or improper treatment at the hands of officers or attendants.

With this introduction, we now pass to the list of inmates examined, following a tabulated classification of the offenses with which they were charged:

	April 18, 1911.	
Crimes against person	362	45.88%
Crimes against property	231	29.28%
All others	196	24.84%
Total population	789	100.00%

Thirty-two of the seven hundred ninety-three inmates refused examination. All those who refused were seen by us and informed that any statement or complaints they wished to make would be heard and considered, but that a formal examination was not compulsory. In a few of these cases, what was equivalent to an examination was made and a diagnosis was recorded; but in most instances the fact only of refusal was noted.

A complete and detailed diagnosis as to the exact form of insanity was not attempted except in a few rather obscure cases. For example: Cases of true Paranoia and cases of what is now called the Paranoid form the Dementia Præcox were all recorded as Paranoia; but most cases in which delusions of persecution or conspiracy were noted as prominent were cases of true Paranoia. In all but a few of the cases of Dementia, the form of insanity which led to the demented condition was not noted. In all cases, the diagnosis was made by us independently, without reference to the diagnosis made and recorded by the Superintendent and the Assistant Physicians; but it is proper to state that no substantial difference of opinion existed in any case. We, your examiners, made our examinations conjointly, but one Assistant Physician being present to introduce the patients; and in each case we consulted the hospital case records, which included histories of patients before their admission. These records were promptly furnished by the medical officers. The labor of the investigation was much lightened by this valuable assistance.

With two exceptions, three sessions were held daily, the last session, with the necessary consultations, often extending far into the night. This necessitated our acceptance of the courtesy of a sojourn in the hospital, without which the investigation would have been much more prolonged. We were given to understand, however, that we were in this the guests of the state.

Everything said and done during our examination was taken by a stenographer; and his records are held for possible future reference in special cases.

As regards complaints, all patients were asked if they had any complaints to make other than the bare fact of their detention. It is well known to alienists that practically all the insane do not recognize their mental condition and believe that they are sane and wrongfully confined. Where no records of complaints appear, no complaints were made that were not either delusional or manifestly frivolous or unfounded. In nearly all instances patients said that they had no complaints to make.

(Signed) Carlos F. MacDonald, M.D.,
Austin Flint, M.D.

COUNTY SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF WASHINGTON.

Annual Meeting at Hudson Falls, May 16, 1911.

The meeting was called to order at 11.30 A. M.

The minutes of the last meeting, and of the meeting of the Comitia Minora were read and approved.

The Treasurer's report was examined and approved.

Secretary's account was read and audited.

The President appointed as a Committee on Program for the May meeting: Drs. H. Lewis, W. B. Melick, J. T. Park, R. C. Davies, R. H. Lee, G. W. Sumner, F. T. Beattie and J. S. Guinan. And as a Committee on Banquet: Drs. G. D. Wilde, J. T. Park and W. C. Cuthbert.

The President appointed Drs. R. C. Paris and W. B. Melick as Nominating Committee, and the following officers were elected for the ensuing year: President—David C. McKenzie, Granville; Vice-President—Arthur E. Falkenbury, Whitehall; Secretary—Silas J. Banker, Fort Edward; Treasurer—Russel C. Paris, Hudson Falls: Censors—W. B. Melick, Fort Edward; J. S. Guinan, Whitehall, and G. W. Sumner, North Granville. Delegate to State Society—A. M. Young, Salem; Delegate to Fourth District Branch—C. J. Shaw, Hudson Falls.

The following resolution was adopted:

"*Resolved,* That we change the date of our Annual Meeting to the first Tuesday in October, and the Semi-Annual Meeting to the second Tuesday in May, and Chapter IX., Section 1 to read as follows:

Section. 1. The regular meetings of this Society shall be an annual meeting, held on the first Tuesday of October at Hudson Falls, and a semi-annual meeting, held on the second Tuesday of May at such place as may be designated by a vote of this Society."

Moved, seconded and carried, that the Society meet in Granville in October.

Dr. Melick presented the following resolution:

"*Resolved,* That the Comitia Minora be empowered to prepare a resolution looking toward the discontinuance of the publication of the *Medical Directory* yearly and that it be published every three or five years instead."

A Committee from the Tuberculosis Hospital, Board of Supervisors, came before the Society for an opinion regarding the advisability of building a Tuberculosis Hospital in Washington County.

Motion was carried that the Comitia Minora prepare a suitable resolution upon this subject and present it at the next meeting.

SCIENTIFIC SESSION.

"A Review of the Development of Modern Medicine," W. B. Melick, Fort Edward.

President's Address: "Suggestive Therapeutics," G. D. Wilde, Fort Edward.

"Puerperal Eclampsia," H. J. Lipes, Albany.

"After Treatment of Obstetric Cases," J. T. Park, Hudson Falls.

"The Conditions Requiring Cæsarian Section," H. J. Lipes, Albany.

SCHUYLER MEDICAL SOCIETY.

Annual Meeting at Watkins, May 9, 1911.

The following officers were elected for the ensuing year:

President—John M. Quirk, Montour Falls; Vice-President—Arthur H. Jackson, Odessa; Secretary—John M. Swan, Watkins; Treasurer—Delavan W. Scutt, Watkins; Delegate to State Society—J. K. King, Watkins; Delegate to Sixth District Branch—F. B. Bond, Watkins.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

Regular Meeting at Schenectady, May 9, 1911.

SCIENTIFIC PROGRAM.

"The Bacteriological Examination of Milk," W. C. Treder, Scotia.

"Hemorrhagic Diseases of the Newborn: Report of a Case," L. Betts, Schenectady.

"The Treatment of Pneumonia Based on the Elimination of Sodium Chloride," H. G. Hughes, Schenectady.

"Chronic Appendicitis; A Critical Study of Post-operative End Results," E. MacD. Stanton, Schenectady.

THE ONONDAGA MEDICAL SOCIETY.

Quarterly Meeting at Syracuse, May 9, 1911.

SCIENTIFIC SESSION.

"Report of a Case of Puerperal Eclampsia," H. E. Gak, South Onondaga.

"Report of a Case of Cerebellar Abscess and Comparison with Two Other Cases," W. W. Osgood, Jordan.

"Errors in Diagnosis," Edward B. Kaple, Elbridge.

MEDICAL SOCIETY OF THE COUNTY OF MONROE.

Regular Meeting at Rochester, May 16, 1911.

SCIENTIFIC SESSION.

"Summer Diarrhœa of Infants," C. F. Chaffe, Rochester.

"Professor Wertheim's Method for the Removal of Cancer Originating in the Uterine Cervix," Henry T. Hutchins, Boston, Mass.

"Pyloric Stenosis," H. L. K. Shaw, Albany.

"Report of an Unusual Case of Gastric Ulcer," E. W. Mulligan, Rochester.

"Diphtheria: Report of an Epidemic and Its Lessons," Wm. Stanton, Webster.

"Concerning Certain Phases of Diagnosis by Means of the Cystoscope and the Cysto-urethroscope," Leo. Buerger, New York City.

"A Practical Issue in the Prevention of Insanity," E. L. Hanes, Rochester.

"A Plan to Improve Medical Expert Testimony," S. W. Little, Rochester.

THE MEDICAL SOCIETY OF THE COUNTY OF STEUBEN.

Annual Meeting at Bath, May 9, 1911.

The following officers were elected for 1912:

President—John L. Miller, Corning; Vice-President—John A. Conway, Hornell; Secretary-Treasurer—W. W. Smith, Avoca; Delegates to State Society—B. R. Wakeman, Hornell; Otto K. Stewart, Canisteo.

A committee of ten was appointed on locating and building a County Tuberculosis Hospital.

SCIENTIFIC SESSION.

Address by the President, O. K. Stewart, Canisteo.

"Artificial Hyperæmia," W. T. Mulligan, Rochester.

"Some Remarks on Cardio Vascular Degeneration," J. E. Walker, Hornell.

"Should the Ingestion of Common Salt be Limited in Either Health or Disease?" C. E. Darrow, Rochester.

"Shall the Medical Society Have a Permanent Committee on Publicity?" C. R. Bowen, Almond.

"Cancer," William B. Jones, Rochester.

"The Diagnosis of Abdominal Disease," Allen A. Jones, Buffalo.

"The Immediate Results of Ehrlich's Salvarsan," H. E. Batten, Corning.

Report of Annual Meeting of Medical Society of the State of New York, B. R. Wakeman, Hornell.

MEDICAL SOCIETY OF THE COUNTY OF ALLEGANY.

REGULAR MEETING AT FRIENDSHIP, MAY 11, 1911.

It was moved, seconded and carried, that the President be directed to appoint a permanent committee on publicity, the duties of which committee would be to have published in the papers of the county, articles aimed at the proper education of the public in medical matters.

SCIENTIFIC SESSION.

Dr. T. H. McKee, of Buffalo, President of the Eighth District Branch, was present and addressed the meeting, showing the advantage and need of every physician being a member of the County and State Society.

"Differential Diagnosis of Hip Joint Disease," Prescott LeBreton, Buffalo.

"Modern Methods of Diagnosis," G. H. Leader, Cuba.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

ANNUAL MEETING AT ALBANY, MAY 10, 1911.

The following officers were elected for the ensuing year:

President—Arthur J. Bedell, Albany; Vice-President—Matthew J. Keough, Cohoes; Secretary—Edwin L. Draper, Albany; Treasurer—George W. Papen, Jr., Albany; Censors—J. Archibold, of Cohoes; J. H. Gutmann, T. W. Jenkins, C. H. Moore, and J. A. Lanahan, of Albany; Delegates to Third District Branch—F. C. Curtis and J. F. Rooney, of Albany.

The Secretary reported that at the last annual meeting in 1910 there had been 185 members, four of whom had died, one resigned, and three suspended for nonpayment of dues; that four new members had been elected, and that these, together with three members transferred from other counties to Albany, made the present total membership 184, a net decrease of one for the year.

The following proposed amendment to the by-laws was presented by Dr. Lanahan:

"WHEREAS, Chapter 2, Section 1 of the General By-Laws makes ineligible for membership, physicians whose affiliation is desirable by the Society,

"Resolved, That Section 2 be amended to read: Directors and Assistant Directors of regularly instituted Laboratories, Medical Superintendents of Hospitals, Medical Officers of State Institutions, and Medical Officers of the United States Army, Navy and Public Health Service are eligible to membership."

Which amendment, under the by-laws of the Medical Society of the County of Albany, will be obliged to lie over for action until the annual meeting in 1912.

After the business session an address on "Co-operation in Medicine" was given by the President, Dr. John H. Gutmann.

LEGISLATIVE NOTES.

BILLS INTRODUCED INTO THE LEGISLATURE.

April 19 to May 19, 1911.

IN ASSEMBLY.

An Act to amend section 238 of the Public Health Law, by making it unlawful for any person or corporation to furnish any of the poisons of schedules A. and B. in liquid form except in a bottle of peculiar shape or having a cork or stopper of peculiar shape, so as to apprise any person handling the same by sense of touch that its contents are poisonous. By Mr. Schifferdecker. To Public Health Committee. (Same as S. 981.) Printed Nos. 1617, 1912, 2381. Int. 1361.

An Act to amend section 295 of the Public Health Law, and adding two new sections, 295-a and 299, relative to licensing of undertakers and embalmers. By Mr. Foley. To Public Health Committee. (Same as S. 1175.) To Public Health Committee. Printed No. 1627. Int. 1371.

An Act to amend the charter of the city of Cortland, authorizing the medical and dental examination of children in the public schools. By Mr. Brown. To Cities Committee. (Same as S. 999.) To Mayor. Printed No. 1653. Int. 1376.

An Act to amend subdivisions 6 and 7 of section 693 of the Greater New York Charter, by providing that the Board of Inebriety must certify in writing to the mayor that the hospital and industrial colony of said board is ready to receive inmates. By Mr. Foley. To Cities Committee. Printed Nos. 1656, 2039. Int. 1379.

An Act to amend section 93 of the Insanity Law, and adding a new section, 121-a, relative to habeas corpus proceedings, and providing for commitments for observation and report. By Mr. Brooks. To General Laws Committee. Printed No. 1693. Int. 1417.

An Act appropriating $10,000 for the investigation by a State commission of the prevalence of tuberculosis and to propose remedial legislation. By Mr. Goodwin. To Ways and Means Committee. Passed. Printed No. 1698. Int. 1422.

An Act to amend the Public Health Law, by adding a new section, 238-a, and adding a new subdivision, 2-a, to section 240, providing that prescriptions for drugs, medicines or chemicals must be issued by a duly licensed physician, accompanied with his business address, and providing that the bottle or package shall contain the license number of the druggist, who filled the prescription and the ingredients. By Mr. Turley. To Public Health Committee. Printed No. 1784. Int. 1498.

An Act to amend the Public Health Law, by adding a new section, 32-a, authorizing a city health department to enter any stable or place where milk is produced for sale in such city, to ascertain the healthfulness or cleanliness of the milk. By Mr. Fry. To Public Health Committee. Printed No. 1785. Int. 1499.

An Act appropriating $754,512.22 for the construction, repairs and betterment of the several State prisons and the Matteawan and Dannemora State hospitals for the insane. By Mr. A. E. Smith. To Ways and Means Committee. Printed Nos. 1879, 2104. Int. 1552.

An Act to amend the State Charities Law, by adding a new article, 24, providing for the establishment of a State hospital in some suitable locality, for the treatment of intermediate and advanced pulmonary tuberculosis, and appropriating $150.000 therefor. By Mr. McGrath. To Ways and Means Committee. Printed No. 1903. Int. 1577.

An Act to amend the County Law, by adding a new section, 49-f, providing for the enforcement by the department of health, of all rules and regulations relative to county hospitals for tuberculosis. By Mr. Fry. To Public Health Committee. Printed No. 1966. Int. 1619.

An Act appropriating $15,000 to enable the state department of health to properly supervise county hospitals for tuberculosis and to extend its educational campaign. By Mr. Fry. To Ways and Means Committee. Printed No. 1967. Int. 1620.

An Act to amend section 20 of the Public Health Law, by providing that if the local board of health in any city, village or town shall fail to appoint a successor to the office of health officer within a period of thirty days after the expiration of the term of office, the health officer for the last preceding term shall continue in office for the period of a term. By Mr. Bush. To Public Health Committee. Printed No. 2019. Int. 1658.

An Act authorizing the supervisors of Oneida County to establish and maintain a public hospital. By Mr. Allen. To Cities Committee. (Same as S. 1171.) Printed No. 2164. Int. 1741.

An Act to amend the Public Health Law, by adding five new sections, 233-a, 233-b, 234-a, 242 and 243, relative to criminal responsibility, to records to be kept in filling doctors' prescriptions and to reports to be filed by licensed pharmacists. By Mr. Turley. To Public Health Committee. Printed No. 2214. Int. 1784.

An Act to amend the State Charities Law, by adding a new section, 12, relative to the detention and discharge of inmates of Letchworth Village. By Mr. McGrath. To General Laws Committee. Printed No. 2229. Int. 1800.

An Act to amend the Code of Criminal Procedure, by adding six new sections, 773-a to 773-f, relative to inquests and to the powers and duties of coroners and coroners' physicians in New York City. By Mr. Foley. To Cities Committee. Printed No. 2262. Int. 1829.

An Act to amend the Insanity Law, by adding a new section, 20, charging the State Commission in Lunacy with the execution of laws relating to detention, care and treatment of insane or apparently insane persons who are under examination or who are confined, pending commitment, and prior to their transfer to insane institutions. By Mr. A. J. Levy. To General Laws Committee. (Same as S. 1349.) Printed No. 2344 Int. 1894.

An Act to amend sections 18, 43, 48, 51, 65 and 85 of the Insanity Law, modifying the powers of the Commission in Lunacy, boards of managers and officers of State hospitals. By Mr. A. J. Levy. To General Laws Committee. Printed No. 2345. Int. 1895.

An Act to amend section 315 of the Public Health Law, by providing that beds in every dormitory in institutions for the care of orphans or destitute children or juvenile delinquents shall be so arranged that passageways, approved by the local board of health and of not less than two feet in width, shall be provided. By Mr. McKeon. To Public Health Committee. (Same as S. 1360.) Printed No. 2366. Int. 1906.

An Act to amend sections 110, 111, 112, 113, 114, 115, 116, and 122 of the Insanity Law, and adding two new sections, 110-a and 110-b, relative to the Matteawan State Hospital. By Mr. Hoyt. To Ways and Means Committee. (Same as S. 1395.) Printed No. 2406. Int. 1924.

An Act to amend section 4 of the Public Health Law, giving the State Commissioner of Health supervision over the sanitary conditions of Indian reservations. By Mr. Bush. To Public Health Committee. Printed No. A. 2426. Int. 1929.

An Act to amend subdivision 5 of section 166 of the Public Health Law, by providing that after the taking effect of this act, medical schools shall not matriculate conditionally students who are deficient in any part of the preliminary educational requirements specified in this subdivision. By Mr. Bush. To Public Health Committee. (Same as S. 1377.) Printed No. A. 2427. Int. 1930.

An Act to amend the State Charities Law, in relation to the Rome State Custodial Asylum, and making an appropriation for an additional building at such institution. By Mr. Ferris. To Finance Committee. Printed No. 1773. Int. 1448.

In Senate.

An Act to amend section 238 of the Public Health Law, making it unlawful for any person or corporation to furnish any of the poisons of schedules A. and B. in liquid form except, in a bottle of peculiar shape or having a cork or stopper of peculiar shape so as to apprise any person handling the same by sense of touch, that its contents are poisonous. By Mr. Sanner. To Public Health Committee. (Same as A. 1361.) Printed No. 1111. Int. 981.

An Act to amend the charter of the city of Cortland, authorizing medical and dental examination of children in the public schools. By Mr. Hewitt. To Cities Committee. (Same as A. 1376.) May 10th. A. 1376 substituted. Printed No. 1127. Int. 999.

An Act to amend section 185 of the Penal Law, by striking out the provision that in all cases where animals are subjected to operation or experimentation, such animals shall first be given anesthetics, where the same would be given to human beings. By Mr. Griffin. To Codes Committee. May 4th. Amended and recommitted. Printed Nos. 1359, 1471. Int. 1166.

An Act authorizing the supervisors of Oneida County to establish and maintain a public hospital. By Mr. Ferris. To Internal Affairs Committee. (Same as A. 1741.) May 10th. Reported. Printed No. 1363. Int. 1171.

An Act to amend section 84 of the Insanity Law, relative to costs for the care and treatment of insane persons and persons under examination as to their sanity. By Mr. Thomas. To Judiciary Committee. Printed No. 1488. Int. 1257.

An Act to amend the State Charities Law, by adding a new section, 12, relative to the detention and discharge of inmates of Letchworth Village. By Mr. Bayne. To Judiciary Committee. (Same as A. 1800.) Printed No. 1545. Int. 1296.

An Act to amend sections 18, 43, 48, 51, 65 and 85 of the Insanity Law, modifying the powers of the Commission in Lunacy, boards of managers and officers of the State hospitals for the insane. By Mr. Bayne. To Judiciary Committee. Printed No. 1566. Int. 1297.

An Act creating a State commission of seven members to inquire into the extent and nature of the practice of experimentation on living animals, and appropriating $10,000 therefor. By Mr. Bayne. To Finance Committee. Printed No. 1546. Int. 1298.

An Act to amend the Insanity Law, by adding a new section, 20, charging the State Commission in Lunacy with the execution of laws relating to the detention, care and treatment of insane or apparently insane persons who are under examination or who are confined, pending commitment, and prior to their transfer to insane institutions. By Mr. Bayne. To Judiciary Committee. (Same as A. 1894.) Printed No. 1630. Int. 1349.

An Act to amend section 315 of the Public Health Law, by providing that beds in every dormitory in institutions for the care of orphans or destitute children or juvenile delinquents shall be so arranged that passageways, approved by the local board of health and of not less than two feet in width, shall be provided. By Mr. Cronin. To Public Health Committee. (Same as A. 1906.) Printed No. 1643. Int. 1360.

An Act to amend subdivision 5 of section 166 of the Public Health Law, by providing that after the taking effect of this act, medical schools shall not matriculate conditionally students who are deficient in any part of the preliminary educational requirements specified in this subdivision. By Mr. Murtaugh. To Public Health Committee. Printed No. 1660. Int. 1377.

An Act to amend sections 110, 111, 112, 113, 114, 115, 116 and 122 of the Insanity Law, and adding two new sections, 110-a and 110-b, relative to the Matteawan State Hospital. By Mr. Fiero. To Penal Institutions Committee. Printed No. 1698. Int. 1395.

An Act to amend chapter 696 of the laws of 1887, entitled "An Act to provide hospitals, orphan asylums and other charitable institutions in the city of New York with water and remitting assessments therefor," in relation to exempting real estate owned by an institution for medical research in New York City from all charges, liens and assessments for the use of water. By Mr. Wagner. To Cities Committee. Printed No. 1704. Int. 1401.

An Act to amend section 1179 of the Greater New York charter, by providing that the chief officer of the third bureau of the Department of Health shall be called the health officer of the port of New York, who shall have all the powers of the health officer of the port, who is now appointed by the Governor. By Mr. Grady. To Cities Committee. Printed No. S. 1736. Int. 1419.

An Act to amend the Public Health Law, in relation to quarantine at the port of New York, and in relation to the health officer of the port of New York, and imposing upon the city of New York, through its department of health, sanitary jurisdiction, supervision and care over and of all vessels, persons, creatures and things subject to quarantine at the port of New York, with the expense thereof, and transferring the powers and duties of the health officer of the port of New York as an officer of the State to the health officer for the port of New York under the Department of Health of the City of New York, repealing certain sections relating to the health officer of the port of New York and abolishing fees for quarantine and hospital services. By Mr. Grady. To Public Health Committee. Printed No. 1734. Int. 1417.

BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

Gonorrhea in the Male. A Practical Guide to Its Treatment. By Abr. L. Wolbarst, M.D., Consulting Genitourinary Surgeon, Central Islip State Hospital; Visiting Genitourinary Surgeon, People's Hospital, West Side German Dispensary and Beth Israel Hospital Dispensary; Professor of Genitourinary Diseases, New York School of Clinical Medicine; Member American Urological Association, etc., etc. Published by the International Journal of Surgery Co., New York, 1911.

A Working Manual of High Frequency Currents. By Noble M. Eberhart, A.M., M.S., M.D. Professor and Head of the Department of Electrotherapy, Chicago College of Medicine and Surgery; Professor of Radiotherapy, High Frequency and Vibration, Illinois School of Electrotherapeutics; Radiotherapist, Francis Willard Hospital. Formerly Attending Physician Cook County Hospital; formerly Professor of Electrophysics, Post Graduate Medical School, Chicago; Member Chicago and Illinois State Medical Societies: American Medical Association; American Medical Editors' Association; Press Club of Chicago; Victoria Institute or Philosophical Society of Great Britain, etc.; Fellow American Academy of Medicine; Fellow American Therapeutic Association. Author of "Practical X-ray Therapy," "Brief Guide to Vibratory Technique," etc; Associate Editor, *American Journal of Physiologic Therapeutics;* Electrotherapeutic Editor, *Therapeutic Medicine* and the *Medical Brief.* Chicago. New Medicine Publishing Co. Chicago Savings Bank Bldg.

Transactions of the College of Physicians of Philadelphia. Third Series. Thirty-second volume. Philadelphia. Printed for the College. 1910.

Hygienic Laboratory.—Bulletin No. 75. April, 1911. Digest of Comments on the Pharmacopœia of the United States of America (8th Decennial Revision) and the National Formulary (Third edition) for the Calendar year ending December 31, 1908. By Murray Galt Motter and Martin I. Wilbert. Washington. Government Printing Office. 1911.

Collection De Psychologie Experimentale et de Metapsychie. Directeur: Raymond Meunier. La Suggestion et Ses Limites, par Le Professor Bajenoff Medecin en chef de l'Asile Preobrajensky, Privat-Docent a l'Universite de Moscou et Le Docteur Ossipoff, Chef de Clinique mentale (Moscou) Bloud & Cie, 7 Place Saint-Sulpice, Paris. 1911.

L'Analyse Physiologique de la Perception par Edouard Abramowski Chef de Laboratoire de Psycho-Physiologie de Varsovie. Paris (VIe) Bloud & Cie, Editeurs. 7 Place Saint-Sulpice, Paris. 1911.

Twenty-second Annual Report of the State Board of Health of Florida, 1910. Approved by the Board in Annual Session, February 14 and 15, 1911. Jacksonville, Florida.

Merck's Manual of the Materia Medica. (Fourth Edition.) A Ready Reference Pocket Book for the Physician and Surgeon. Containing a comprehensive list of Chemicals and Drugs—not confined to "Merck's" —with their synonyms, solubilities, physiological effects, thereapeutic uses, doses, incompatibles, antidotes, etc.; a table of Thereapeutic Indications, with interspersed paragraphs on Bedside Diagnosis, and a collection of Prescription Formulas, beginning under the indication "Abortion" and ending with "Yellow Fever;" a Classification of Medicaments; and Miscellany, comprising Poisoning and Its Treatment; and an extensive Dose Table; a chapter on Urinalysis, and various tables, etc. Merck & Co., 45 Park Place, New York. 1911. 493 pages. Sent on receipt of forwarding charges of 10 cents, in stamps, to physicians, or to students enrolled in any College of Medicine, in the United States.

Tuberculosis as a Disease of the Masses and How to Combat It. Seventh American Edition, Enlarged and Revised, with 64 illustrations. By S. Adolphus Knopf, M.D., New York. Professor of Phthisiotherapy at the New York Post-Graduate Medical School and Hospital; Director in the National Association for the Study and Prevention of Tuberculosis; Associate Director of the Clinic for Pulmonary Diseases of the Health Department; Visiting Physician to the Riverside Hospital Sanitarium for Consumptives of the City of New York, etc. Published by *The Survey,* 105 East Twenty-second Street, New York. Also for sale by Fred P. Flori, 16 West Ninety-fifth Street, New York. 1911.

BOOK REVIEWS.

A Text-Book of Bacteriology. A Practical Treatise for Students and Practitioners of Medicine by Philip Hanson Hiss, Jr., M.D., Professor of Bacteriology, College of Physicians and Surgeons, Columbia University, New York City, and Hans Zinsser, M.D., Associate Professor in Charge of Bacteriology, Leland Stanford, Jr., University, Palo Alto, California, with 156 illustrations in the text, some of which are colored. Price, $3.75. D. Appleton & Co., New York and London. 1910.

This work, which is the product of a life-long experience in the science of bacteriology, is conspicuous not only because it embodies all the practical, the most recent researches and up-to-date advancements in the realm of bacteriology, but it is equally prominent for the manner in which the subject is presented. On account of the easy style of writing, the forcible and clear expression and the decided practical presentation of the subject, the reading and study of bacteriology is robbed of its dryness and made extremely interesting.

Particular notice deserve the chapters on immunity. The authors have succeeded admirably in blending the two difficult tasks of brevity and completeness. While presenting the universally adopted facts regarding immunity they have agreeably omitted the diverse views on the subject and have carefully separated the unessential from the essential matter.

Another praiseworthy feature of this work is the numerous references given by the authors for almost every topic that they treat.

Altogether this work is undoubtedly the latest and best work on the subject in the English language.

Wm. Lintz.

The Principles and Practice of Dermatology. Designed for students and practitioners. By William Allen Pusey, A.M., M.D., Professor of Dermatology in the University of Illinois; Dermatologist to St. Luke's and Cook County Hospitals, Chicago; Member of the American Dermatological Association. With five plates, one in color, and 384 text illustrations. Second edition. New York and London. D.

Appleton & Company. 1911. Price, $6.00 cloth, and $7.00 half leather.

The first edition of Dr. Pusey's Principles and Practice of Dermatology was published in 1907, and it at once made a place for itself in the dermatological world.

Broadly speaking, there can be but little difference between any of the modern works on dermatology, the success and usefulness of a new work depends a great deal upon whether the author is a good teacher of his subject; this Dr. Pusey is, and both editions of his work are filled with his personality.

While the work is more suited for experts in dermatology the subject is expressed in such a clear and concise manner, that any one reading it will be able to grasp, comprehend and learn many things about this difficult medical specialty.

The second edition has been thoroughly revised and many of the subjects rewritten, new articles have been added, as for instance, there is an insert upon "Salvarsan" giving the results of our knowledge of the subject up to the time the edition went to press.

All of the recent advances made in dermatology are noted in this edition, and it is a work that can be recommended to the general practitioner as well as to the cutaneous specialist. J. M. W.

A Treatise on Diseases of the Nose, Throat and Ear. By William Lincoln Ballenger, M.D., Professor of Laryngology, Rhinology and Otology in the College of Physicians and Surgeons, Chicago. New (third) edition, thoroughly revised. Octavo, 983 pages, with 506 engravings, mostly original, and 22 plates. Cloth $5.50, net. Lea & Febiger, Philadelphia and New York, 1911.

Dr. Ballenger is to be congratulated upon this third edition of his excellent work. But few medical authors experience the gratification of writing a book so generally appreciated, and in such demand that a third edition is necessary within three years of its first publication. During that period, material progress has been made in the methods of treating diseases of the nose, throat and ear, and this volume records fully all that has a proven value.

Among the additions of especial interest we note consideration of the following important subjects: the use of vaccine therapy in infectious diseases of the upper respiratory tract, the accessory sinuses of the nose and the meninges. The author disclaims a large experience with vaccine, and acknowledges much discrepancy in the results reported, but prophesies its greater utility in the future. Goldsmith's plastic operation for the closure of recent perforations of the nasal septum is described, also Fletcher's sphenoidal operation with his disk-punch forceps. A short article on Vincent's Angina is new text and contains instructive data furnished by Dr. T. H. Halstead.

Acute and chronic diseases of the accessory sinuses are discussed thoroughly. Dr. Ballenger is an authority on these subjects, and treats them in a strong and helpful manner. We commend the reading of these chapters to all young rhinologists. Under the title, "The Etiology of the Inflammatory Diseases of the Nose and Accessory Sinuses," it is shown that the most common predisposing cause of sinusitis is some form of obstruction in the vicinity of the middle turbinated body and the hiabus semilunaris. An imaginary line around this area is termed, "the vicious circle," and the condition of the structures included is regarded as the "key" to inflammation of the sinuses. The following rules are deduced as a working basis for operations on the anterior group of sinuses, and they are emphasized by italics: "Remove the obstruction within the key or vicious circle, before attempting more radical measures," also "Never perform a preliminary intranasal operation a few days before a radical operation on a sinus." Observance of the latter rule will lessen the possibility of meningeal complications.

The presentation of the methods of correcting deformities of the nasal septum is a masterpiece. Dr. Ballenger has contributed much toward perfecting surgery of the septum, and he explains very clearly the operations which he prefers, but he also gives fair space to a description of the numerous other operations now in vogue.

This is characteristic of the author's treatment of all questions about which there are diverse views. His personal opinions are given in positive and well-defined terms, but a full and just consideration is accorded to those who differ with him. No one who is interested in these special subjects should fail to study this admirable treatise. W. F. D.

Diseases of the Anus, Rectum and Sigmoid. For the Use of Students and General Practitioners. By Samuel T. Earle, M.D., Professor Emeritus of Diseases of the Rectum, in the Baltimore Medical College; Surgeon in Charge of Rectal Diseases at St. Joseph's Hospital, the Hebrew Hospital, and the Hospital for Women. With 152 illustrations in the text. Philadelphia and London. J. B. Lippincott Company. Price, $5.00 net.

He who would generalize all books on medical subjects as dull must revise his opinion when he reads this volume of Dr. Earle's, for every one of its 460 pages is full of live interest. This achievement is the greater in view of the fact that the subject is one to which the general practitioner as a rule, has an aversion.

The descriptions and illustrations are particularly clear, and attention is called to several new methods and instruments which will greatly aid those doing rectal work. Valuable observations are made on local anesthesia in this field, and timely advice given on the subject of Spinal Anesthesia.

I wish especially to note the remarks on the "Cure of Constipation by Psychotherapy, Training in Habit, and Accessory Stimuli." This chapter contains much of value, and while not new, the methods are so thoroughly and concisely described that a careful perusal of it is well worth while.

Something new appears under the heading, "Perianal and Perirectal Abscesses." "Fissure in Ano," too, is dealt with in a masterly manner. "Anorectal Fistula," "Hemorrhoids," "Prolapse of the Rectum," and "Pruritus Ani' are presented in a very skillful way.

The last chapter deals with Congenital Idiopathic Dilatation of the Colon, better known as Hirschsprung's Disease, about which considerable has been written during the past two or three years.

As each chapter is finished the reader realizes that he has been interested as well as instructed. Altogether the author has given the profession a very valuable contribution to this important subject. E. H. Mayne.

International Clinics. Edited by Henry W. Catell, A.M., M.D. Philadelphia. Vol. I., Twenty-first Series. 1911. J. B. Lippincott Company.

This volume is devoted to diagnosis, treatment, general medicine, pediatrics, surgery, ophthalmology, physiology, anatomy, biology, tropical medicine, and a a resumé of the advances of medicine during the past year.

The spring article is on pellagra in the United States. Other important articles are on "606" blood pressure, poliomyelitis, syphilis, infant feeding, open treatment of fractures, nutrition, the determination of sex, and mosquito work in the canal zone. It contains much of value and importance.

DEATHS.

D. S. Anderson, M.D., Owego, died May 21, 1911.

Carl Beck, M.D., New York City, died June 8, 1911.

Carlton C. Frederick, M.D., Buffalo, died April 30, 1911.

J. Wiltsie Knapp, M.D., Syracuse, died April 14, 1911.

F. D. Putnam, M.D., Auburn, died April 5, 1911.

NEW YORK STATE JOURNAL OF MEDICINE

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EDITORIAL DEPARTMENT

SHALL VENEREAL DISEASES BE REPORTABLE TO THE BOARD OF HEALTH.

AT a recent meeting of the Medical Society of the County of New York it was formally moved and seconded that cases of venereal disease should be classified among those which are reported to the Board of Health. The motion was put and carried.

At first sight it would seem that they undoubtedly belong in this class. On reflection, however, it must appear that there are wide differences which separate these diseases from those of the 37 motic class, and which must be taken into consideration in dealing with them from the sociological standpoint. Boards of Health are not so much concerned with the influence of disease on the individual as its influence with society at large. The function of the Board of Health is mainly preventive rather than curative. It safeguards the public against the spread of disease and leaves the cure to the general medical profession. The effective control of contagious disease of the ordinary type depends on the ability of Boards of Health to quarantine those suffering from the disease. The right to enforce quarantine depends on the method by which the contagion is disseminated. The ordinary zymotic diseases are spread by fomites. Personal contact is not necessary. The presence of the infected individual amongst others who have no immunity is sufficient to spread the contagion. This is true of diphtheria, measles, smallpox, scarlet fever, typhoid fever, whooping cough and others of this class. Tuberculosis and typhoid fever are in a class by themselves, since in one case sputum and in the other fecal matter or infected urine are the carriers of the contagion. In the zymotic diseases society has rightly given to Boards of Health the power to quarantine the affected individual and the infected premises. Moreover the maintainance of quarantine is easy because the individual is usually confined to bed. Patients ill with these diseases have no control over their contagion, which is not the case with the tuberculous individual. In the case of the typhoid patient the control of the contagion lies with the attendants. It is quite evident therefore that the right to quarantine in the zymotic diseases ought not to be extended to the tubercular and the typhoid cases, because of the nature of the infection and the means by which it is transmitted. The right of the public to quarantine for syphilis and gonorrhœa is affected not only by the same considerations mentioned as existing in the case of typhoid fever, but other and more serious questions come in, which co-operate to make the right to quarantine in the venereal diseases still more doubtful. As to contagion no one can acquire syphilis or gonorrhœa by proximity as in the case of the zymotic diseases. An individual with gonorrhœa is not a menace to fellow travelers in a street car nor in a crowded assembly. A patient with a zymotic disease is. The right to quarantine is certainly modified by these facts. True, a syphilitic with mucous patches in his mouth may infect a drinking cup and so convey his disease to an innocent party, but the public

drinking cup is under the ban for other causes and is rapidly becoming a thing of the past. Syphilis insontium, not conveyed by the sexual act or by other personal contact is rather rare, so with gonorrhœa, except in the case of Ophthalmia Neonatorum. As a matter of fact syphilis and gonorrhœa when transmitted to the innocent are so transmitted under the protection of the marriage relation. This is deplorable, but under our present system of marriage license, at present unavoidable. Let us then say to the enthusiasts attack the problem by making these diseases reportable. How is that going to affect matters? The first question which requires answer is, would such a procedure be legal under the present charter of the Board of Health? The writer not being a lawyer, on this point consulted one of the highest legal authorities in the State who replied "Under the present charter the Board of Health has no such powers. The legislature could however pass a law conferring such a power." It is more than doubtful whether the legislature would pass such a law, but suppose it does. Let us examine its probable influence on the problem. It cannot be denied that the control of other contagious diseases depends on the right to quarantine. Is the Board of Health to be also given the right to quarantine cases of active syphilis or active and latent gonorrhœa? We may well pause and ask ourselves whether such a procedure would be practicable. What would be the immediate result? Concealment and a resort to the quack, injection Brou and the glass syringe, and the prescribing druggist. Such a law would increase the evil it sought to cure. No man is going to subject himself to a quarantine which would expose his immoral conduct and which in most instances would cost him his position, and in many cases involve him in domestic litigation. Such a law would be absolutely unenforceable. The chief weapon of the Board of Health is quarantine and a quarantine of syphilitics and gonorrheics is for obvious reasons inpracticable.

What then can the Board of Health do if these diseases are made reportable as the Medical Society of the County of New York recommends? It can send polite notes of advice to the affected individual and tell him facts which his physician has already communicated. In addition the individual would become conscious of the fact that his disease was now a matter of public record. Would these records be obtainable in court by an order to the Board of Health? They certainly would. The State would thus under some circumstances be compelling an individual to testify against himself. What again would be the actual result of a law which did not admit of quarantine but simply made the disease a matter of record and polite admonition on the part of the Health Inspector? The same result would be obtained. Infected individuals would delay treatment at the hands of the reputable physician and seek the aid of the quack and the corner drugstore.

Such a law can only defeat its own ends. It is idle to compare cases of venereal disease with tuberculosis and to expect the same results from legal practices in quite different conditions. It is a misfortune to contract tuberculosis, but not disgraceful. It is disgraceful under all circumstances to contract the venereal diseases by guilty practices and under some circumstances illegal. What we want to accomplish is to bring these diseases under control and what is far more important, to protect the innocent from infection. We shall accomplish neither of these things by driving the victims of the disease into concealment until their condition becomes so desperate that a hospital is their only refuge.

Aside from all this, the Board of Health is not a society for ethical culture, or the enforcement of public morals; and unless it can be clearly demonstrated that such contemplated action would produce the desired results with mathematical precision, is not fairly asked what its jurisdiction might rightfully be? For such a law could be no respector of persons, and could make no exceptions. Under its operation the physician would be compelled either to infract the law or violate a prime clause in his oath of office, often with the result of precipitating a domestic scandal and causing mental agony to innocent people, without any real hopes of protecting either individuals or the public at large from fortuitous infection.

Does it not seem that the most the Board of Health could be properly asked to do would be to include in its circulars regarding contagious and infectious diseases some practical statement setting forth the nature of the dangers attendant upon the social evil?

This problem deals with an instinct in man for the perpetuation of the race, and the real factor which, humanly speaking, always has and always will govern the gratification of so strong an instinct is personal character. Until the race has attained to an intellectual and moral plane where its individual members can see the real advantage of self-restraint and have the will power to practise it, the social evil will persist, and remain a menace to the public, in spite of the enactment of laws.

A FURTHER CONTRIBUTION TO THE SUBJECT OF BLOOD TRANSFUSION. DIRECT METHOD.*

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THE art of transmitting blood from one individual to another is doubtless older than history. It is a matter of common knowledge that somewhere among the relics of antiquity there may be found the half mythical story of Naaman, the Syrian Prince, who was subjected to the operation of phlebotomy and transfusion, but his leprosy, the dreaded malady for which he sought relief, was not changed, and he was finally cured through divine interlocution by the Prophet Elisha. Now, it is reasonable to suppose that if one instance of this kind occurred, there may have been others. But where shall we find the records of these scientific vagaries? If anywhere, they are engraved among the hieroglyphics of the ages. When we are able to Anglicise the tabulated characters of the past, surely much valuable information will have been revealed. What methods were used by these primitive physicians, or how extensive their work, we may never know. They had no real knowledge of surgical cleanliness, they were not conscious of the beneficient influence of the normal saline solution; but acting under the canopy of superstition, about all that was of value to the science of medicine during the life of the Patriarchs, and the sway of the ancient kings, and the glory of the Egyptian Dynasties, was executed by the Priestly Rabbis. Surgery of the blood vessels among the ancients, to be sure, was limited in its extent. They realized however, that the circulatory apparatus contained an essential fluid, although they did not comprehend its import. To them it was the spark of life shrouded in mystery.

We cannot follow these pioneers in their practice of the healing art. Even the sacred writers, from whom we get most of our impressions of early disease and its treatment, give us but a glimpse into what might have been one of the most fascinating chapters of medical chronology. With this the story closes. Months lapse into years, and years into centuries. Then we cross the boundry line of mysticism and enter the confines of true medical history. Here we meet Galen and Vesalius and Paré and others. The crude study of anatomy and surgery by these splendid fellows laid deep and wide the foundation for future investigation, and upon this foundation rested the masterly work of Harvey, who explained to the world more fully the nature of the circulation. That was in 1628. About fifty years more was now consumed in experimental work upon animals. Then came the first transfusion upon the human subject. From time to time many more attempts at blood transfusion were made with asserted good results; but our present understanding of the composite character of the blood would lead us to doubt the accomplishment of anything definite by these early experimenters. Nevertheless, their work was an inspiration to the generations which followed them. They tried to exclude air from the vessels, and their technique was intended to prevent clotting of the blood on its way from the donor to the recipient. All their methods, however, required an intermediate structure, usually some form of tubing. Death was not uncommon from emboli, or the entrance of air into a vein. A careful search of the literature, therefore, would reveal many failures. Two hundred years after the first transfusion there was still no improvement in technique the apparatus of Aveling being the one of choice. With this instrument and its application we are all familiar. Transfusion was done from vein to vein. Referring to the American Textbook of Surgery, about this time, we find the subject dismissed in very few words, preference being given to the use of the normal salt solution. Ten years more brings us down to the present time. During the last half of this decade, blood transfusion has acquired a new impetus, so that more importance is attached to the efficacy of blood to-day than ever before in the history of surgery, and the manner of transfusing it has been completely revolutionized. Blood is now carried from artery to vein, instead of from vein to vein; and if carefully done, under proper indications, transfusion is no longer a doubtful procedure. This brief review of the subject covers a period of over three thousand years. But strange to say, nearly all of those thirty centuries had passed before our knowledge of the blood had been broadened into its present great scope, and before genius had evolved a method whereby transfusion may be done quickly, safely and efficiently.

Saline transfusion will never lose its place in surgical therapeutics. It has a wider range of application than blood transfusion and is safer. The use of defibrinated blood seems unlikely to meet with general approval. The transfusion of the future, therefore, will be that of blood or saline solution. From many parts of the surgical world are heard brilliant reports of blood transfusion, and still a great many surgeons are yet to be won over to confidence in this operation. Like many other therapeutic measures it is largely a piece of empyricism. It would seem that the opinion concerning its feasibility has for 200 years merely fluctuated. Advocated for a time by men eminent in the profession, to be deprecated by as many more whose judgment cannot be questioned. Ostensibly, some patients,

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through the medium of blood transfusion, seem to have been rescued from a veritable crisis. In reality, this may not have been true, since other lines of treatment might have accomplished the same results. Further study of the blood will clear up some of these questions. Saline solution is so safe and so uniformly satisfactory, that, to become popular, the operation of blood transfusion must be reduced to such a degree of simplicity as to be more applicable to general practice.

We have already come to know a great deal about the effect of one blood upon another, and the tendency toward incompatibility and hæmolysis. Before transfusion, the percentage of hæmoglobin in the patient is usually low and the number of red blood cells is diminished. The whites are variable. After transfusion, the erythrocytes and the percentage of hæmoglobin are both augmented but not always to a readily perceptible degree. The patient seems to be vitalized from the start, but the actual blood findings are not commensurate with the favorable clinical manifestations. A little later, however, there is evidence of greater improvement in the blood constituents than could have been realized, had the ordinary treatment of anæmia been carried out. Eight to twelve ounces of blood is a safe quantity to be transfused at any one time. The donor is not in any particular danger, but the donee may be overcharged to the extent of causing dilatation of the right ventricle. He should be kept under constant surveillance. Unusual irritability, or respiratory embarrassment, or marked sudden change in the character of the pulse, are indications of approaching danger. When we consider the rate at which the blood circulates, it is evident that the newly transfused blood must immediately fall into line with the rapidly moving current, and deliver to the tissues its portion of nutrient material. If this does not occur there is danger of incompatibility and the transfused blood becomes a foreign body. That hæmolysis does result in a small number of cases should remind us of the desirability of making the necessary preliminary tests to determine whether the blood to be transfused is physiologically acceptable.

The indications for transfusion of blood, as we now see them, are well known to us all and need not be reiterated here. Doubtless they will be rearranged and more carefully classified as our experience broadens. It is a striking fact that anæmia is not always an indication for blood transfusion, for if the blood-making organs are at fault, as in pernicious anæmia and leukemia, no permanent benefit is derived. Certain discrasias and profound constitutional conditions are practically unrelieved. Among these are hemophilia, syphilis, tuberculosis and malignancy. There are instances in which quite grave anæmia is well tolerated by the patient and therefore, transfusion, if done, though helpful, will receive undue credit. Under this head may be classed the anæmia of slow gastric hemorrhage, and that associated with the puerperal state. I have seen cases of alarming hemorrhage following an abortion or miscarriage in which it seemed unwise to further jeopardize the patient's life by the peculiar agitation attending a blood transfusion operation. The same reasons prevail in certain cases of post-operative hemorrhage when the bleeding vessel cannot be retied. Saline solution under the breast or by rectal instillation may well be substituted. The best results are to be expected after simple loss of blood, as from rupture of a blood vessel, or from neglected hemorrhoids, or from persistent epistaxis, or from stillicidium incident to uterine fibroid, or from suicidal wounds, or from certain cases of ectopic gestation, the various casualties and malæna neonatorium. Two of my cases represented the extremes of life. One was a child, seven days old, completely blanched from intestinal hemorrhage, the cause of which was not determined. The other was an old man of sixty-five years of age, exsanguinated from bleeding piles. Both patients did well. The child is now eleven months old and weighs fourteen pounds. Several small hemorrhages occurred during the week following transfusion. This was undoubtedly a case of melæna neonatorium. Hemorrhage from a typhoid ulcer should be seriously considered as an indication for transfusion, when death is imminent and laparotomy cannot be performed.

But there is still much that is ultra-scientific along this line, nor can animal experimentation entirely relieve the situation, any more than laboratory work can solve all the difficult problems related to therapeutics. Waste and repair are coincident. It is a question, therefore, whether the blood produced by one individual is equal in all respects to that circulating within the vessels of another, so that when fusion of the two currents takes place, there can be no menace to the finely adjusted metabolism, no disturbance of the circulatory equilibrium. In other words, one must be an exact physiological counterpart of the other. If the latter is true, we should resort to blood transfusion more frequently and with less hesitation.

Among the more recent methods of transfusing blood, only two or three have been found satisfactory. The direct method, which has been used in the experimental work upon which this paper is based, has given such gratifying results that I wish now to submit a description of it for further consideration and trial.

The donor and donee are placed in position side by side, the radial artery and basilic or other vein, respectively, being selected. The parts are cleansed and anæsthetized with a 1 to 2 per cent. solution of cocaine. Infants require only saline infiltration. Morphine is rarely necessary. The artery and vein are then laid bare for two to three inches, cleared of all connective tissue, and their nearby branches and tributaries carefully

ligated (Figs. 1 and 2). Nerve filaments are to be avoided as far as possible. The vessels are then covered with hot saline sponges. No vaseline is needed. It is a foreign element of doubtful utility. The wrist of the giver is now brought so close to the arm of the receiver that the artery, when divided, will more than reach the vein. Small mouse-toothed forceps are applied to the vessels—two to the vein and one to the artery—in such a manner as respectively to serve as tractors in opening and closing the vein, and as a carrier to steady and transmit the artery (Figs. 2 and 3). The incision in the vein should be longitudinal, preferably, and just large enough to easily receive the artery and admit of ready closure of the vein about it. The matter of closing the vein about the artery need not be described. It is easily done by a simple twist of the forceps, an embellishment which will occur to the operator at the proper time. The forceps should grip only the outer coat of the vessel (Figs. 2 and 3). Not much assistance is called for. Up to this point very little time has been consumed, as the work of isolating the vessels is quickly done. One thing is absolutely important

Fig. 1.—Artery stripped of all aventitia, wire-like, ready to be divided.

Fig. 2.—Artery severed, ready to be transmitted to the open vein. Clamp applied to outer coat, only. Distal end closed.

Fig. 3.—Isolated vein laid open ready to receive the artery. The clamps grip only the outer coat.

Fig. 4.—Mouse toothed clamp with lock. Graduate for estimating the amount of blood transfused.

—the adventitia must be so thoroughly cleared away as to reduce the artery to a wire-like structure (Fig. 1). This does not in any way alter its function. Everything is now ready. The clamps are applied, the artery severed, the vein opened, and while both vessels are bleeding freely, the artery is quickly carried into the vein for a half to three-quarters of an inch, and the vein closed around it. No special forceps are needed, but I have found the short mouse-toothed clamp with lock, to work splendidly (Fig. 4). Every surgeon has these in his armamentarium. When a sufficient amount of blood has been transfused, the vessels are litigated and the wound closed. In every instance the artery will be found pulsating when it is withdrawn from the vein. This, with venus pulsation, are satisfactory proof that blood has entered the circulation of the patient.

Note the fact that no vessels are clamped, or adjusted to various canulæ, or applied to intervening tubes, or carried about with traction threads. In short, they are not disturbed in their function until the moment of making the anastomosis. Tedious and complicated preliminaries have contributed to the cause of failure in certain other well established methods, clotting and cessation of pulsation in the artery being the result, requiring resection and readjustment of the vessels. We should look upon Criles' technique as the product of a master mind; but I have known from one to three hours to be exhausted in doing a transfusion by this method. This is hardly consistent with the art of good surgery. Such criticism applies to the operator rather than to the technique. Still, rapidity, with accuracy and efficiency are the elements to be sought for. A large clot of blood usually forms about the point of junction of the vessels. This helps to seal the anastomosis, but if troublesome, may be cleared away. The union of the vessels is made quickly, and there is little danger of air entering the circulation. It might seem best to completely sever the vein and thus make an end to end anastomosis. In my judgment this should not be done. It makes the work more difficult, and at once increases the danger of clotting and of air emboli. While it may seem desirable that intima lie in contact with intima, it certainly is not necessary. Clinical experience has demonstrated this.

Undoubtedly the amount of blood entering the vessels of the recipient should be accurately measured. This also is very nicely accomplished. A slender test tube or measure (Fig. 4), graduated to minims, is sterilized and allowed to receive a certain quantity of blood, say thirty minims, from the spurting artery, as soon as it is divided, and the number of spurts thus required counted. For instance, if five pulsations are necessary to fill the measure to the thirty minim mark, and the donor has a pulse of eighty, the vessel will discharge an ounce of blood per minute. As soon as the vessels are connected, and the blood begins to flow from one to the other, the pulse is taken and the estimation made. Small variations from interrupted technique need not be counted. Not only should the quantity of transfused blood be known, but we should take into consideration the appearance and general condition of the patient for at least two weeks after the operation, giving special attention to the rate and character of the pulse, blood pressure, renal secretion and the blood changes, if any, as revealed by a series of subsequent analyses. By following some such plan as this, valuable statistics would be compiled, and the operation of blood transfusion would naturally drop into the category to which it belongs.

DEDUCTIONS FROM CLINICAL EXPERIENCE IN THE USE OF A POLYVALENT BACTERIAL VACCINE.*

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THE object of this paper is to briefly set forth the writer's experience in the use of a stock vaccine, containing virulent strains of those organisms commonly producing sepsis.

Early in 1908 a vaccine was prepared, which contained the following organisms in the proportions stated:

1 c.c. contains	Streptococcus Longus		50,000,000
	Staphylococcus	Aureus. Albus. Luteus. Citreus.	500,000,000
	Bacillus Coli Comm.		200,000,000
		Total.	750,000,000

The theory which led to this combination was, that it would be valuable in many cases where time was an element, and autogenous vaccines impracticable; and that if clinical experience of its use demonstrated that it could be safely used by the general practitioner, with reasonable expectation of desired results, such a polyvalent vaccine would find a wide sphere of usefulness.

The mode of trying out the polyvalent vaccine was based upon the thought, that to be of really practical value, its administration should be perfectly simple, and devoid of the necessity of either determining the opsonic index, or culturing the blood. And this has seemed worth while, in view of the large number of physicians throughout the country who possess neither the necessary technique themselves, nor the facility for procuring it, whose patients would otherwise be deprived of a very

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valuable method of treating infection. No undervaluation of the opsonic index, blood cultures, or indeed autogenous vaccines is to be inferred from the above statement. The question here involved is, whether these procedures are sufficiently negligible from the clinical standpoint to make vaccination safe and serviceable without their employment. Is the negative phase such a danger point as to be strenuously safeguarded? Is the time element of infection sufficiently important to warrant the use of a mixed vaccine, on the possibility of its containing a virulent strain of the infecting species in the concrete case? Is the value of a vaccine dependent upon autogeny, or virulence of strain?

The writer has always felt that there was less danger in the negative phase, than in the rapid increase in both bacteria and toxines involved in the loss of initial time; for it must not be forgotten that with this increase the somatic cells are prone to become benumbed with toxine, and lose their reactionary powers. On the other hand, autogenous vaccination would seem a *priori* not a *sine quae non;* for the very simple reason, that the infecting organism is not original to the individual infected: B acquired it from A, and A from someone else. The really important factor would seem to be virulence of strain.

On this assumption clinical work was begun and the vaccine was administered to a number of cases including puerperal sepsis, phlegmon, sepsis following abortion, mastoiditis, endocarditis, etc. Some of the cases were so striking, that a preliminary report was made at the annual meeting of this society in 1908, and it was decided to push the work on a larger scale.

Through the courtesy of Mr. E. Plummer, the formula for the polyvalent vaccine was submitted on the 2d of December, 1909, to Messrs. Parke, Davis & Co., who generously agreed to produce the vaccine, and placed their Biological and Research Department in Detroit at our disposal.

Under the direct supervision of Dr. E. M. Houghton, of this department, and Dr. Seaborn, the polyvalent vaccine has been furnished in unstinted quantity to myself and some other physicians for experimental use "without money and without price"; and our hearty thanks are herewith tendered together with an expression of appreciation of the scientific, and altruistic spirit evidenced by the generosity of Messrs. Parke, Davis & Co.

The method of using the vaccine was as follows:

Muscular injections with a Luer 1 c.c. syringe were preferred, as they seemed to be better absorbed than the subcutaneous ones, and were less painful. Vaccinations were performed as early as possible, to anticipate toxemia. The uniform dose was c.c. 0.5.

Where toxemia was already marked, the Murphy drip, and catharsis were employed for the purpose of washing out the toxines.

Revaccinations were always made at four-day intervals, after experience had made it evident that the effect of the vaccine lasted with considerable regularity seventy-two hours.

It is to be remarked that no untoward local reaction was ever observed, save slight muscular soreness, which did not always obtain.

Very commonly the patients themselves would speak of a sense of invigoration, coming on twenty-four hours after the vaccination.

No clinical evidence of depression was at any time met.

Following is a table of seventy-five cases which represent the graver types of infection. For the most part they represent the under dog—men and women, poorly fed and clad, and often alcoholics of an advanced type. This table is shorn of all details not directly bearing upon the question at issue:

The maximum temperature is noted to convey some idea of the toxicity of the infection. The hospital day on which the first vaccination was given is recorded, together with the number of vaccinations, and the result in days, and clinically. The total amount in c.c. of vaccine used is recorded.

Of the seventy-five cases treated, thirty-five were erysipelas, eighteen puerperal sepsis, and twenty-two miscellaneous, *i. e.,* ruptured ectopic with sepsis, suppurative salpingitis, deep phlegmon of arm and forearm, malignant endocarditis with embolic phlegmon of hand and gangrene, ischio-rectal abscess with profound sepsis, cervical adenitis following Pfeiffer's glandula fever—aureus infection, appendectomy with sinus, salpingectomy with abscess anterior to bladder wall, mastoiditis, osteomyelitis. These cases were all in bad shape when vaccinated, and all did well after vaccination, excepting a case of septic pneumonia following a gunshot wound, and a case of malignant endocarditis with pyæmia. Many of the cases such as Nos. 50 and 51 were chronic alcoholics of the worst types.

Several unrecorded cases of puerperal septicemia were treated without result, where the patients were practically moribund, being swamped with toxines. In the thirty-five cases of erysipelas, two died, one being moribund on entering the hospital, the other a baby six months old, with phlegmon of the scalp covering three-quarters of its area. The temperature in this case fell to normal, but the patient died of exhaustion. The average duration of the remaining thirty-three cases was 4.3 days which is 2.7 days less than Strumpel's lowest average. The earlier the treatment, the shorter the duration of the case after vaccination.

No.	Name	Hospital	Disease	Day in Hospital 1st Vaccination	No. of Vaccinations	Result Days + Recovery — Death	Maximum Temperature	Dose c.c. 0.5 = 25m. Strepo.	
1.	Ozelis	Kings County	Erysipelas Facialis	2	1	2 +	105.0°	0.5	
2.	Vanonera	" "	" "	1	1	2 +	102.0°	0.5	
3.	Coyle	" "	" "	1	1	4 +	104.6°	0.5	
4.	Czonski	" "	" "	1	1	5 +	104.0°	0.5	
5.	Stanley	" "	" Entire body	14	4	6 +	105.0°	2.5	Murphy drip.
6.	Cornish	" "	" Facialis	2	1	3 +	104.8°	0.5	
7.	Kessler	" "	" "	1	1	3 +	105.4°	0.5	
8.	Rush	" "	" "	2	1	3 +	105.0°	0.5	
9.	Hanley	" "	" "	2	1	2 +	103.4°	0.5	
10.	Rosenbaum	" "	" "	2	1	5 +	104.4°	0.5	
11.	Cummings	" "	" "	1	1	4 +	102.6°	0.5	
12.	Lombard	" "	" "	2	2	10 +	105.2°	1.0	
13.	Marnstein	" "	" "	1	1	4 +	104.4°	0.5	
14.	McDonough	" "	" "	8	3	9 +	104.2°	1.5	
15.	Weinstein baby	" "	" "	3	1	— —	105.4°	0.5	Entire scalp sloughed.
16.	Fields	" "	" "	1	2	5 +	104.0°	1.0	Abscess.
17.	Cohen	" "	" "	1	1	3 +	105.6°	0.5	
18.	Killard	" "	" "	2	1	2 +	101.4°	0.5	Cellulitis of scalp.
19.	Donegan	" "	" "	1	1	4 +	101.8°	0.5	
20.	Barrett	" "	" "	1	2	7 +	105.0°	1.0	Cellulitis of legs.
21.	Wald	" "	" "	2	1	3 +	104.8°	0.5	
22.	Birsk	" "	" "	2	2	3 +	104.0°	1.0	
23.	Siegle	" "	" "	8	2	6 +	105.4°	1.0	
24.	Clarke	" "	" "	2	2	6 +	105.0°	1.0	
25.	Faulk	" "	" "	2	1	3 +	105.4°	0.5	
26.	Beard	" "	" "	1	2	—	104.6°	1.0	Advanced chronic alcoholism.
27.	Brown	" "	" "	4	1	3 +	105.2°	0.5	
28.	Knowles	" "	" "	1	2	7 +	103.8°	1.0	
29.	Clauson	" "	" "	2	2	3 +	106.0°	1.0	
30.	Maher	" "	" "	15	2	5 +	102.6°		Cellulitis, right leg.
31.	Feldman	" "	" "	62	4	12 +	105.0°	2.0	Post scapular abscess.
47.	Levitt	St. John's	" "	3	1	2 +	105.0°	0.5	
57.	Mrs. F. B. P.	Private	" "	1	1	3 +	104.0°	0.5	Third attack; previous ones having lasted, according to patient's statement, three weeks.
59.	Newell	Long Island Coll. Hosp	" "	1	2	3 +	103.8°	1.0	Comminuted fracture left tibia and fibula.
75.	Duff	Kings County Hosp	" "	4	2	4 +	105.0°	1.0	Very severe toxemia, with delirium.
32.	Barbari	Long Island Coll. Hosp	Puerperal Sepsis	3	2	5 +	104.0°	1.0	Murphy drip.
33.	Capbianca	" " " "	" "	2	5	20 +	106.4°	2.5	Murphy drip.
34.	Nolan	" " " "	" "	30	3	6 +	104.0°	1.5	Murphy drip.
35.	Miller	" " " "	" "	7	2	6 +	104.0°	1.0	Murphy drip.
36.	Swartz	" " " "	" "	2	11	47 +	105.4°	5.5	Murphy drip.
37.	Berger	Dr. Jewett's Sanitarium	" "	49	10	22 +	106.0°	5.0	Murphy drip. Daily chills until vaccinated; after vaccination only three chills. Multiple abscess all over body opened and drained. Patient fast going to pieces before commencement of vaccination.
38.	Kaplan	Dr. Jewett's Sanitarium	" "	7	6	29 +	104.6°	3.0	Murphy drip. Multiple abscess. This case desperately sick.
39.	Blackert	Kings County	" "	3	3	1 +	102.0°	1.5	Endocarditis, — mitral. Blood culture +. Staph. albus.

No.	Name	Hospital	Disease	Day in Hospital 1st Vaccination	No. of Vaccinations	Result Days + Recovery — Death	Maximum Temperature	Dose c.c. 0.5 = 25m. Strepo.	
40.	Paffale	St. John's	Puerperal Sepsis	1	4	8 +	104.0°	2.0	Murphy drip.
41.	Dietrich	" "	" "	2	8	68 +	104.4°	4.0	Murphy drip. Ruptured uterus, laceration of perineum into rectum. High forceps.
42.	Murray	Long Island Coll. Hosp.	" "	2	3	5 +	105.0°	1.5	Murphy drip.
43.	Lester	St. John's Hosp.	" "	3	4	14 +	104.8°	2.0	Following abortion. Blood culture. Streptococcus longus.
44.	Loosen	" " "	" "	28	2	5 +	105.0°	1.0	Murphy drip.
69.	K. Miphstis	" " "	" "	2	2	+	103.0°	1.0	Laceration of cervix and perineum.
70.	Seddon	" " "	" "	3	1	—	105.0°	0.5	Moribund when vaccinated.
71.	Harris	" " "	" "	5	1	+	103.8°	0.5	Lacerated cervix and perineum; endometritis.
72.	Benners	" " "	" "	4	1	+	104.8°	0.1	Eight months' fœtus. Septic pneumonia. Colored.
73.	Boyle	" " "	Malignant Endocarditis	17	3	+	101.5°	1.5	Blood culture, streptococcus longus.
45.	Boyle	Long Island Coll. Hosp.	Rupt. Ectopic Gest. Sepsis	9	3	4 +	103.8°	1.5	
46.	Gupman	" " " "	Suppurative Salpingitis	5	5	10 +	105.4°	2.5	
48.	Cann	" " " "	Necrosis Left Tibia, Sinus		3	8 +		1.5	Case of long standing. Improvement at once. Sinus closed rapidly.
49.	Dirusso	Kings County	Septic Pneumonia	5	3	—	107.0°	1.5	Gunshot wound, marked shock from beginning.
50.	Foster	" "	Phlegmon, Right Arm and Forearm	4	7	4 +	104.0°	3.5	Acute alcoholism. Desperately sick.
51.	Sebasty	" "	Phlegmon, both Arms and Forearms	18	6	11 +	103.2°	3.0	Phlegmon of both forearms and arms. Bitten by cat. Was rapidly breaking down when first vaccinated. Incisions gaping and dry, soon began to discharge healthy pus.
52.	Kerby	Private House	Malignant Endocarditis		2	+	104.0°	1.0	Embolic phlegmon and gangrene. Amputation right forearm. Mycosis of mitral valve.
53.	Gonzales	Long Island Coll. Hosp.	Phlegmon, Right Hand, Arm and Forearm	10	7	+	105.0°	3.5	Free incision and drainage. Wound showed no reaction before vaccination. Improvement immediate and permanent after first vaccination.
54.	Warbasse	Private	Cervical Adenitis following Pfeiffer's Glandular	28	1	2 +	105.0°	0.25	Boy and girl, æt —. Otitis Med. Sup. Aureus infection. Neck glands much swollen. Temp. 99-105 daily for weeks.
55.	Warbasse	"	Fever	28	1	2 +	105.0°	0.25	
56.	Garland	"	Ischio-rectal Abscess		2	+	105.0°	1.0	Prolapsed hemorrhoids. Op. Dr. Bristow. Septic thrombosis and ischio-rectal abscess. Improvement rapid after vaccination. A desperately sick man.
58.	Whitmore	"	Sepsis: Profound Acute Tonsilitis	2	1	2 +	103.0°	0.5	
60.	Mrs. H.	"	Acute Tonsilitis	1	1	2 +	102.0°	0.5	
61.	Mrs. K.	"	Acute Salpingitis, Op.			+			Abscess, anterior to bladder. Patient rapidly going to pieces.
62.	Dr. Knight's case	"	Appendectomy, C. Sinus		1	+			Immediate closure of sinus.
63.	Gottlieb	Brooklyn Eye & Ear Hosp.	Mastoiditis	10	2	6 +	106.0°	1.0	
64.	Lloyd	" " "		14	3	2 +	103.8°	1.5	
65.	Reincke	" " "	Mastoiditis	7	3	7 +	104.4°	1.5	
66.	Wensky	" " "	Mastoiditis	2	3	4 +	102.2°	1.5	
67.	Simpson	Kings County Hosp.	Osteomyelitis, Right Hand	1	4	6 +	101.8°	2.0	
68.	Presky	" " "	Phlegmon, Arm	67	4	+	102.0°	2.0	
74.	Roge	St. John's Hosp.	Malignant Endocarditis	6	1	—	106.0°	0.5	Pyæmia.

Analysis of the table results in the following conclusions:

First.—Proper use of the polyvalent vaccine described above is not only harmless, but it is also of positive value in many cases of infection.

Second.—A stock vaccine containing virulent strains has the advantage over the autogenous vaccines of saving valuable time, and being available at any moment for physicians who lack the facilities for procuring autogenous vaccines.

Third.—Vaccination is useless, if the patient be already swamped with toxine. The only hope in such cases is to eliminate the toxine by catharsis, and the Murphy drip, or, where the infecting organism is known, by the use of an anti-serum in conjunction with the vaccine.

Fourth.—Early vaccination offers the best prospect of success.

Of the specific cases treated, the following may be remarked:

The effect of vaccination upon phlegmon is to increase the local reaction, often within a few hours. An incision which is sluggish will pour out pus with astonishing rapidity, and the tissues will assume a more healthy appearance. At the same time the temperature, which often rises at first, begins to drop and becomes normal, or nearly so. The pulse improves. In erysipelas, extension of the erythema is checked, the temperature drops, commonly on the third day, and the pulse improves. The skin blush often persists for some days after all other symptoms have subsided. In the writer's cases the only local treatment used was a normal saline mask, to prevent dissemination of desquamated epithelium.

In puerperal sepsis the time to strike is the moment that it is clear that the case is one of sepsis. Little is to be expected in profound bacteriemia, and less when the patient is stupid with toxines; although two of the cases here tabulated, Nos. 37 and 38 which were vaccinated for the late Dr. Charles Jewett, did recover after a long siege of multiple abscess, in which the toxine was sufficient to produce marked stupor.

Aside from these graver cases, many others of a milder type of infection were vaccinated with almost uniformly good results: boils, furuncles, abscesses, acne vulgaris. In numerous cases of acute tonsilitis the results were ideal, the reaction often occurring within twenty-four hours.

In conclusion the writer feels justified in hoping that this polyvalent vaccine will be given a fair trial by a great many physicians, and he feels sure that, in properly selected cases they will not be disappointed, but will experience joy of seeing their cases recover.

SURGICAL DYSPEPSIA.*

Considered from the Standpoint of the General Practitioner.

By WILLIAM J. CRUIKSHANK, M.D.,
BROOKLYN-NEW YORK.

FROM the time of Beaumont (1825-32), who conducted the experiments through the gastric fistula in the stomach of Alexis St. Martin, not much of importance beyond corroborative evidence was contributed to our knowledge of the treatment of so-called dyspepsia until the introduction of lavage by Kussmaul in 1869. The subsequent adoption of the soft rubber tube for the purpose of exploration of the stomach led to a great increase in our knowledge of the chemistry of digestion in both normal and pathological conditions. Encouraged by results thus obtained, much time and attention were concentrated on the study of the secretory function of the stomach; but the study of the relation of other gastric functions, such for example as the motorial function of the stomach to disease of that organ, seems to have been given relatively little attention. Many of the therapeutic conclusions arrived at as the result of the study of the chemistry of the subject, especially those based on laboratory experiments upon healthy animals, for obvious reasons, have frequently led us far afield in the treatment of dyspepsia.

In marked contrast to this, modern abdominal surgery has given us such brilliant and definite curative results that we have recently come to refer to many forms of dyspepsia as being distinctly and essentially surgical. Indeed these cases are coming to be known as surgical dyspepsias. The early, careful, investigation and recognition of them by the general practitioner, must eventually develop in him far better diagnostic acumen, resulting in the greater confidence of the surgeon in the physician's ability to determine and settle the proper course of procedure. Above all it will result in giving the patient the opportunity to obtain timely surgical aid, aid to which he is justly entitled.

If the term surgical dyspepsia means anything at all, it refers to those cases of digestive disturbance which logically may be regarded as amenable to surgical treatment, or, in which operative measures are necessary for diagnostic purposes; it should not suggest that all cases of dyspepsia must be rushed to the operating table: antiquated conservatism cannot thus flippantly dispose of it. On this important point there should be no thoughtless criticism, no forced friction or unnecessary conflict of opinion between modern medicine and surgery. The surgeon may be trusted to recognize the limitations of surgery and there should be no shirking of diagnostic responsibility by the phy-

* Discussion of a paper entitled "Surgical Dyspepsias," by Russell S. Fowler, M.D., read before the Medical Society of the County of Kings, April 18, 1911.

sician. The sole object of our profession, the conservation of human life whether by medical or surgical means, must never, even for one moment, be lost sight of. Unprejudiced and scrupulously accurate comparison of results is indispensable to scientific conclusion. Medical men should now squarely face the fact that we owe most of our definite knowledge of this whole subject to the study of the living pathology as set forth by such surgeons as Bilroth, Wölfler, Nicoladoni, and elaborated by Mayo, Moynihan, Finney, Mayo Robson, and others working along the same lines. Moynihan has clearly shown that many of our mistakes in the diagnosis and treatment of these conditions, may be directly traced to mistaken conceptions of physical phenomena based upon the study of the pathology of the dead instead of the pathology of the living. Surgery has helped to teach us that we have sometimes made the error of mistaking symptoms for disease. In this way we have been charging the stomach with the commission of crimes of which that organ has frequently been found to be guiltless. The surgeon is constantly proving that many of these indictments against the stomach should be dismissed and that the criminal should be sought elsewhere; and this is concurred in by the authoritative clinician. For example, no less a medical authority than Fenwick, who bases his conclusions upon the clinical experience gained by the examination, investigation and treatment of more than 18,000 persons suffering from indigestion, tells us that disturbance of digestion in the stomach itself is rarely due to a primary disorder of that viscus, but is usually the consequence of serious disease of another and perhaps remotely situated organ of the body. As an example of this he says, "One of the most interesting varieties of dyspepsia is that which ensues from a continuous secretion of the gastric juice. Hitherto it has been the custom to regard this hypersecretion as a primary neurosis of the stomach, but there can be little doubt that it is really a secondary phenomenon dependent upon an organic lesion of the digestive organs. It is in this connection that the relationship of latent diseases of the appendix vermiformis to dyspepsia becomes apparent, since in almost every instance where the appendix is diseased, some perversion of the gastric secretion may be detected. Thus, when the organ is ulcerated or contains a calculus, a typical hypersecretion is usually found to exist, while if it be merely thickened, twisted or adherent, owing to a previous attack of acute inflammation, a form of chronic gastritis is apt to supervene after a time, which not only obscures the original disorder of secretion but closely simulates the clinical features of nervous indigestion."

Now, if this assertion of Fenwick's be true, that is, if it is in accordance with the facts, he should be able to *demonstrate conclusively* that hypersecretion is nothing more nor less than a symptom of an organic lesion, and that is exactly what he does.

An analysis of his cases of dyspepsia shows, that in his private and consultation practice, 32.4 per cent. were suffering from chronic hypersecretion; and he reports, up to 1910, the findings in 112 consecutive cases submitted to operation, as follows:

Chronic ulcer of the stomach existed alone in 13 cases.

Chronic duodenal ulcer existed alone in 46 cases.

Gall stones existed alone in 12 cases.

Disease of the appendix existed alone in 22 cases.

Gastric and duodenal ulcer co-existed in 3 cases.

Duodenal ulcer and gall stones co-existed in 3 cases.

Gastric ulcer and diseased appendix co-existed in 5 cases.

Duodenal ulcer and diseased appendix co-existed in 4 cases.

Cancer of the pylorus existed alone in 4 cases.

"I am obliged to confess," he continues, "that out of nearly a thousand examples of the complaint that have come under my care I can hardly recall an instance in which cure can be said to have been effected without recourse to operation, while in a large percentage, death ensued within twelve years from hemorrhage, perforation, appendicitis, inflammation of the liver or pancreas, progressive mal-nutrition, tetany or diabetes, or from an intercurrent disease such as pneumonia or tuberculosis."

"It is quite clear, therefore," he concludes, "that chronic hypersecretion is not a disease, but merely an expression of an organic lesion of some part of the digestive tract or of those organs which pour their secretions into it, and while most cases may be accounted for by the presence of gall stones, gastric or duodenal ulcer, or disease of the appendix, I believe further experience will show that pancreatic calculus, cancer and tubercle in the region of the cæcum can also induce gastric disorder."

Thus it will be seen that this dyspepsia—this disturbance of digestion called chronic hypersecretion, the same which Ewald and other eminent gastro-enterologists have for years dogmatically classed among the functional neuroses requiring only medical treatment,—seems to be a dyspepsia always depending upon a lesion, frequently upon a remote lesion, demanding surgical interference for its relief. The same may be truthfully said of many other forms of dyspepsia which heretofore have been supposed to depend upon mere functional disturbances of the stomach.

When this subject is viewed in the light of our present knowledge, we are again forced to the conclusion that the time has long since passed

when the general practitioner can conscientiously dismiss his dyspeptic patient with a few suggestions regarding diet and a prescription for hydrochloric acid and pepsin. In his attempts to diagnose and treat these cases he must first come to a full realization of the truths concerning them which have been demonstrated by modern scientific achievement, to which surgery has so largely contributed. He must, for example, wake up to the fact, recently presented by Mayo, that "ten years ago we heard a great deal about 'innocent' gall stones which meant that gall stones existed without symptoms and that their presence was not suspected until post-mortem examination brought them to light. We cannot now escape the conviction that gall stones did cause symptoms and that we as diagnosticians and not the gall stones were innocent." Referring to the treatment he says, "gall stones are foreign bodies. Why delay operating until complications occur? In our experience simple operations for uncomplicated gall stones have had a mortality of less than one-half of one per cent. and this might be called accidental since it was due to the condition of the patient rather than due to the operation. Early operation is relatively safe and the gall bladder might be saved for future function. Fatalities can be traced in almost very instance to delay. The temporary palliation can be procured with non-operative measures cannot be denied (Carlsbad, etc.) but the cure of the patient can only be brought about by surgical measures."

Again, the general practitioner must learn to appreciate the full force of the recent teachings of Moynihan regarding dyspepsia due to ulcer of the duodenum. In considering the question of the proper diagnosis of this disease he must, first of all, be thoroughly alive to the positive statement recently made by that experienced observer that "recurrent severe 'hyperchlorhydria' *is* duodenal ulcer" and not, as many of the text-books on medicine still teach, a functional neurosis. To detect the existence of ulcer in a given case the physician must rely almost entirely upon the anamnesis. He should not expect to get diagnostic aid from physical examination because, as a rule, nothing can be learned from it. He must recall the fact that the patient does not complain of his discomfort immediately after eating but that he experiences pain, sense of epigastric fulness, eructations of bitter fluid or gas, beginning always about two hours after the meal; that these symptoms gradually increase, that they are always relieved for a time by the injestion of food or alkalis but that they invariably return as soon as the stomach is again empty, or nearly so. He should remember that these attacks of indigestion appear periodically, with great regularity, lasting for weeks or months at a time, and that they then disappear, frequently leaving the patient to enjoy an interval of such perfect health that he is loath to believe that there is anything left of his trouble. The diagnosis of duodenal ulcer having been once carefully made, the physician must learn to realize, for the present at least, certainly until more is learned concerning the etiology of the disease, that the hope of cure lies with the surgeon. The general practitioner of to-day is in a position to advise a patient suffering from ulcer of the duodenum, that the operation necessary for his relief (gastrœnterostomy) when performed by a skillful surgeon familiar with upper abdominal work, is attended with no greater risk than is an interval appendectomy.

The possibility of the occurrence of another form of dyspepsia frequently presenting classical stomach symptoms which are in no way directly traceable to that organ, should always be borne in mind by the general practitioner. I refer to indigestion produced by dislocation of the kidney. It occurs very frequently, especially in women, and the cause of the dyspepsia is almost as frequently overlooked. The origin of the mischief once suspected, the diagnosis becomes comparatively easy. The case should then be considered from a surgical standpoint.

Attacks of indigestion due to chronic appendicitis, cancer of the stomach and acute and chronic pancreatitis, must all of them be classed as surgical dyspepsias. The most interesting point to the general practitioner regarding cancer of the stomach, it seems to me, is the fact as demonstrated by Mayo, Moynihan and others, that a large proportion of the cases (Mayo puts it at 45 per cent. and Moynihan something above that figure) result from ulcer of the stomach, the presumptive evidence seeming to be that a much greater proportion, perhaps all cases of cancer of the stomach, originate at the site of ulcer. Hence the importance of the early recognition by the physician of dyspeptic symptoms depending upon that lesion.

To conclude: The general practitioner should always bear in mind the well demonstrated fact that indigestion is not usually due to disease of the stomach but that the contrary is true, the stomach being the mouth-piece of some other organ.

LATEST STATISTICS ON CANCER IN THE UNITED STATES AND IN NEW YORK.

By WALTER B. CHASE, M.D.,
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THE question of the prevalence of cancer in the United States and to those who are residents of New York of its prevalence here, are matters of the deepest interest. The statistics of the "Bureau of the Census" for 1910 from which the following information is derived (and estimates made) appear in *Bulletin* 108. The actual and estimated entire mortality in the United States in 1909 was about 1,464,000, exclusive of still births. Cancer was sixth in point of frequency of all causes of death. The following is the order: 1st. tuberculosis, 163,000; 2d. heart disease, 132,000; 3d. diarrhœa and enteritis, 105,000; 4th. pneumonia (all kinds), 98,000; 5th. nephritis, 97,000; 6th. cancer, 75,000. A recent writer in comparing the mortality statistics of cancer in some European countries with their known population, has attempted by similar reasoning to determine its presence in the United States. His conclusions are wide of the mark. His claim is that there are 80,000 cases of cancer at the present time in the United States with a annual mortality of 40,000.

According to the *Monthly Bulletin*, New York State Department of Health, January, 1910, the statement is found on page 27 bottom of first column that in 1909 the deaths from cancer were 7,034, an increase of 480 over 1908, or 4,500 per year greater than twenty-five years ago. According to the present census the population of New York in April last was in round numbers 9,000,000.

The *Monthly Bulletin* N. Y. State Department of Health for January, 1911, page 5, gives the deaths from cancer in 1910 as 75,000, practically 500 more than in 1909, about one death to every 1,350 of the entire population. According to the "Mortality Statistics, 1909," Bureau of the Census Bulletin 108 it appears that in the registration area of the United States embracing eighteen states and fifty-four cities in non-registration districts (pp. 7 and 74) embracing 53 per cent. of the entire (estimated) population (table p. 20), there were 37,562 deaths from cancer—or approximately for the entire United States 75,000 deaths—or one death in 1,200 persons, a mortality slightly greater than in New York State.

On the same basis of estimation (see p. 74, *U. S. Bulletin* 108) it appears in round numbers according to frequency of occurrence there were the following deaths: 1st. stomach and liver, 30,000; 2d. female genital organs, 11,000; 3d. intestines, 9,000; 4th. breast, 7,000; 5th. skin, 3,000; 6th. mouth, 2,800; and other unspecified organs, 11,000.

It will be noticed the mortality for cancer of the female genital organs was 11,000 and that of the breast 7,000. Presumably those of the breast were in women. If this is true then cancer of the reproductive organs of women amount to 18,000—more than one-fourth of all deaths from cancer.

It is impossible, save inferentially, to estimate the number of cases of cancer in the United States at this time. If the average length of time cancer patients die after its presence was known, could be arrived at, the ratio of death per year could be determined. This must largely be a matter of conjecture. Those who have had large opportunity for observation estimate the average duration of all varieties of cancer to be three years. With this as a basis for comparison it appears there are 225,000 cases of cancer in the United States at this time, or three times more cases than the yearly deaths of 75,000. Fuller returns from the Census Bureau not yet obtainable will disclose with greater accuracy the aggregate yearly mortality of the whole United States, when I propose making a fuller and more accurate analysis of cancer statistics.

MALIGNANT TUMORS OF THE KIDNEY.*

By HENRY ADSIT, M.D.,
BUFFALO, N. Y.

THE fairly frequent occurrence of primary malignant growth of the kidney has only been recognized in the past fifteen years, the difficulties of definite diagnosis—antimortem—being almost insurmountable without the aid of the X-ray, the microscope and the cystoscope. The tumors were reported from the autopsy table in the great majority of cases, not from the wards or at operation, and it was the autopsy findings of the Vienna hospitals which led Grawitz to make the first logical study of the condition in 1881. Even now with our present clinical aids, the diagnosis in early and operable cases is difficult and sometimes almost impossible.

Classification.—Malignant tumors of the kidney may be grouped into five classes:

First.—Hypernephroma—by far its most frequent, as also the most difficult to diagnose early.

Second.—Carcinoma—a condition curiously rare.

Third.—The mixed tumors occurring in children which are not uncommon.

Fourth.—Sarcoma, also a disease of childhood and practically a subdivision of the last group.

Fifth.—The very rare condition of malignant papilloma of the kidney frelois.

Occurrence.—The relative frequency of these

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growths, compared with all malignant tumors in other organs is variously estimated. The Berlin statistics give 3.7 per cent., Albarran and Imbert give about 5 per cent., Grawitz and Klopff 7.1 per cent., Garceau gives less than 2 per cent., and from a compilation of the Johns Hopkins records and those of the Buffalo hospitals to which I have had access I have been able to find about 0.2 per cent. Of the five divisions the hypernephroma is by far the most frequent, corrected statistics giving it from 91 to 97.5 per cent. of all primary malignant kidney growths. Primary carcinoma is extremely rare, and only eight undoubted cases have been reported. Garceau has reported three from Boston. Only one such case occurs in the Buffalo and Johns Hopkins records. The mixed tumors and sarcomata are not uncommon making up from 3 to 7 per cent. of these cases.

Histology.—Ever since Grawitz first differentiated hypernephroma from other forms of kidney tumor, it has been a histological puzzle and the question of its histogenesis has given rise to warm controversy. Manasse, Bland-Sutton, Lubarsch, and others hold that it is an endothelioma. Many others argue that it is epithelial, as its structure would surely suggest. Sudeck calls it an adenoma. A recent and quite convincing article from the Mayos' clinic tends to support the latter view. However, the fact is pretty generally admitted that the condition is a malignant development of aberrant adrenal tissue, and as Minot and Garceau argue that the adrenal itself is developed from the mesenchyme—which is most surely true—the endothelial origin seems probable. Aberrant adrenal tissue is found commonly in various organs in perfectly normal cases, the most common site being the upper pole of the kidney directly under the capsule, which is also the usual place for the origin of hypernephroma. I have cut serial sections of 241 normal kidneys and have found adrenal rests in 18, or over 7 per cent. Imbert reports over 9 per cent. The analogy is, at least, striking. Hypernephromata, too, when of small size, preserve remarkably typical adrenal appearance. When the growth has attained large size, however, the arrangement of cells tends to vary. The simple rows resting on the capillaries become multiple and through a proliferation of the capillaries themselves a tufted, loose appearance is presented. However, metastasis from these atypical tumors almost invariably revert to the typical form. When the growths are very large, areas of hemorrhage and softening occur, the necrosis being usually in the middle of the tumor. These growths are not infiltrating in their advance and are usually surrounded by a well marked capsule which is composed of compressed kidney substance which has undergone fibroid change. This capsule is ruptured only occasionally and then very late in the disease when the tumor is of enormous size. The kidney tissue is destroyed by pressure atrophy and not by infiltration, and, too, infiltration invasion of adjoining structures is late. Metastasis takes place through the veins, seldom through the lymphatics, and direct extension into the renal vein and thence into the vena cava is common. Israel reports a case where the growth had reached into the auricle itself. I have seen one case where the growth extended into the iliacs and into the renal vein of the opposite kidney, completely filling the vena cava, and still was not adherent and could be lifted out *en bloc.* The fragments of these intravenous growths delivered to various organs by the blood stream give rise to the metastasis which occur most notably in the bones, lungs, liver, pleura and opposite kidney. The regional lymph glands are not commonly affected.

As to rapidity of growth, these tumors vary much. Some have been recognized and have been present for years before operation or autopsy. I have seen one case of 11 and another of 8 years standing. Others grow with tremendous rapidity and one case of mine had reached its autopsy size, 7 pounds, in 2 months from the onset symptom. As to age, middle life, the 40-50 decade, holds the great majority of cases though one case of 10 years of age is reported. Men are more commonly affected than women in the proportion of about 3-2, as Albarran gives it, or 2 to 1 according to Israel.

One curious thing to be noted is that these tumors do not extend into and involve the kidney pelvis or the rest of the urinary tract, and no metastasis can be found in the bladder, prostate or elsewhere that can be blamed on the urinary stream.

Many cases of carcinoma of the kidney have been reported, which later investigation has shown to be either hypernephromata, or else metastasis from a primary cancer elsewhere. I have been able to verify only three cases. Two of these, the sections of which I saw with Dr. Garceau were infiltrating in character and scirrhous in type, the cell-chains growing between the kidney tubules and invading the glomerular tufts and spaces. Only occasionally was a alveolus to be seen. The other case was of a very marked adenomatous type. The cells were small, cuboidal and arranged quite regularly in long tubules. The growth resembled hypernephroma in that it was not infiltrative and was of large size. The scirrhous kidneys were very slightly enlarged. In all the cases the fatal termination was soon after the first symptom. The patients were all women, from 24 to 48 years of age.

The mixed tumors occur in childhood, give usually a very short history and rapidly grow to enormous size. A histological description is almost impossible, as all types of embryonic tissue, except teeth and hair may be included—bone, cartilege, smooth and striped muscle, epithelium in cells and so-called "perles," myxomatous and connective tissues—the two latter usually predominating. Metastases are rare, and the patients die of cachexia or some intercurrent infection. The average duration of the cases is about 3 months. The age varies from 6 months to 14 years, and the sexes are equally liable.

Rubbert insists that sarcomata of the kidney should be classed as mixed tumors, and that there are no true sarcomata of the kidney. I have previously reported two cases, one of the small round celled type in a child of 2½ years which reached tremendous size in 2 months, and the other a pure spindle cell in a boy of 12 years. Serial sections showed the tumors as pure sarcomata. Metastases were early and universal in the first case, and, to date, have not occurred in the second.

Symptoms.—The three classical symptoms of malignant kidney—arranged in the common order of their occurrence—are one, Hematuria; two, Pain; three, Tumor. To these there should be added temperature—a condition I had noted but the importance of which was impressed on me by Israel's interesting article in the *Deutsche Med. Wochenshrift* for January.

In hypernephroma hematuria is usually the first symptom noted. At first it is usually intermittent—that is, it may occur for a day or two, and then disappear completely sometimes for months. With the growth of the tumor the intermissions are shortened, the duration of the periods of hematuria is lengthened, and the amount of blood increases, though it is rarely very alarming in amount. When there is a sudden gush of blood, clots may form in the ureter giving rise to pain exactly simulating renal colic, which is relieved by the passage of black, worm-like blood casts of the ureter. This intermittent bleeding has been noted as the first symptom in about 80 per cent. of hypernephroma cases, and sometimes occurs for years before a tumor is palpable or continuous pain is present. Tumor is usually to be felt in the flank of the affected side when the case is first seen, though sometimes there may be considerable enlargement without a definitely palpable tumor, as the usual site of the growth is at the upper pole of the kidney. When seen early it is firm and smooth, not movable and not painful on pressure, but later on account of necrosis or soft clots it may be soft and fluctuant. In some cases metastatic growths were the first noted symptoms. I have seen one case of tumor of the tibia, clinically diagnosed as sarcoma, which on removal was found to be hypernephroma. The patient had had several slight attacks of transient hematuria, but otherwise no kidney symptoms. At autopsy a primary growth was found in the left kidney, about as large as a baseball.

A curious condition which occurs in many of these cases is varicocele, and other evidences of genito-urinary engorgement. In three cases of hypernephroma which I have cystoscoped, though systitis was not present and no cultures could be grown from the urine, there was marked congestion of the bladder vessels. Young says that any right sided varicocele should be viewed with suspicion.

Of course, in the very large cases, with growth into and obstruction of the vena cava, ascites and other marked symptoms of venous obstruction are present, but within the last few days I have seen a case with marked bladder engorgement and a tumor only as large as a walnut in size, case 3. The reason for this is not obvious and I cannot attempt to explain it.

In the infiltrating carcinomata, as the kidney is only very slightly enlarged, no tumor is palpable, the bleeding is more profuse and not so intermittent, and the chief symptom is the very severe lancinating pain in the flank and middle back. This pain is persistent and is with great difficulty controlled even by large doses of morphia. In the adeno-carcenoma case tumor was the first symptom and the pain was not particularly severe.

Mixed tumor and sarcoma are notable on account of the very rapid and tremendous growth of the tumor, which may fill the whole abdomen. Pain is not present in the majority of cases and hematuria—curiously enough—is not very common, though case 6 had marked hematuria for 7 weeks.

The occurrence of temperature in many of these cases is noteworthy. I had noted it in four cases, but Israel's article before referred to brought it forcibly to my attention. The charts of my cases, except in one case where there was no fever, showed a low fever, running up to 101°, and suggesting an early typhoid curve. In one case it reached 103.4°. Two cases—one case 6 and one at the Buffalo General Hospital, were diagnosed as malaria. Dr. Lyon tells me of another case of his own of the same sort. Israel, in his article, reports 14 cases with irregular temperatures.

Diagnosis.—The presence of any of the three cardinal symptoms would always give rise to grave suspicion. The hematuria in hypernephroma, when the bladder and prostrate can be excluded as the source of bleeding by examination, should make a thorough investigation of the affected side inperative. When bleeding is present a jet of blood or a black cast may be seen at cystoscopy issuing from the ureteral orifice of the affected side. A very few blood

cells in the urine of the catheterized ureter may be caused by trauma and should not be taken too seriously. The so-called essential hematuria occurring in hemophiles and others can almost always be controlled by an injection of adrenalin solution, 1/4000, through the ureter catheter into the pelvis of affected kidney and can thus be ruled out, as the bleeding of tumor growth is not so easily controlled.

X-ray plates should be made to rule out a possibility of stone. Tuberculosis may give all the cardinal symptoms of kidney tumor, but the tuberculin tests, and the discovery of the tubercle bacilli in the purulent urine would rule out the latter condition. The most important point, however, is the condition of the bladder and particularly the ureteral orifice on the affected side. In about 90 per cent. of cases other foci of tuberculosis are to be found in the genito-urinary tract, that the ureteral orifice is either red, pouting and œdematous, or usually markedly ulcerated, while in malignant growth it is usually unchanged or only slightly injected.

The urine, curiously, is very little changed until very late in the disease. There may be a slight albuminuria on the affected side, and between the intervals between hemorragic periods there may be microscopic blood. Pus or particles of tumor tissue are rarely to be found. Occasionally blood casts or a few epithelials are to be seen. Very late in the disease there may be anuria on the affected side, but it is surprising to see the work that a very small amount of compressed kidney tissue can do.

A large hydronephrosis will sometimes closely simulate a kidney tumor, but measuring the capacity of the kidney pelvis through a ureter catheter or an X-ray of the injected pelvis will clear the diagnosis at once.

The functional tests in early cases do not seem of great value. In one case I got delayed elimination of indigo-carmine which was not marked, and in the last case a reduced 1/3 elimination of phenolsulphonphthallein.

When tumor alone is present, without urinary symptoms, which is uncommon, there is liable to be great difficulty in diagnosis. In kidney tumor there is no line of resonance on deep percussion between the kidney dullness posteriorly and the spine as may occur in splenic tumor and the tumors in front invariably underlie the flexures of the colon, while liver or splenic tumors may override.

I would venture here to report briefly 6 cases, 5 of my own and 1 at which I assisted with and observed pathologically.

Case 1.—Farmer, white, 48 years old. Family and personal history negative. Always in robust health. Six years ago he noted that once for a period of 3 days he passed bloody urine. He felt no ill effects, and the bleeding ceased on taking some patent medicine. No doctor was seen, for he was busy getting in hay. No further trouble for 9 months, when he had another attack, lasting 2 days. He saw his doctor who gave him some medicine, and it ceased. Since then has had attacks lasting 1 to 3 days about every 2 or 3 months. About 16 months ago he had a severe attack of sharp, colicky pain on his left side, which was relieved on passing some clots "which looked like black worms." Bleeding persisted for 4 or 5 days after this, and since then has been more frequent. Since this attack has had a dull aching pain, not severe, in that side. About 9 months ago his doctor discovered a tumor in his left flank, and told him he should see a surgeon, which he refused to do. This tumor has grown to large size since. He has lost much weight, 40 to 50 pounds, and both legs are swollen, particularly the left. About two months ago noticed a swelling in the shin of the right leg which has grown rapidly. Feels bad and has lost appetite. P. X.—emaciated, cachectic, W. B. C. 8,000, Temperature 103.2°. Liver enlarged. Ascites very marked. Legs edematous. Urine negative. Anuria on ureter catheter on left side. Tumor on right shin as big as egg. Firm and painful. Sent home to die. P. M. 3 months after. Done at home. Intravenous growth filling vena cava ureters in liver, lungs and shin. Hypernephroma in sections showed a papilloid type with areas of necrosis and degeneration.

Case 2.—Electrician, 31 years old. Married. Family and personal history negative, except primary and secondary lues 8 years ago. Nothing seen since treatment lasting 3 years. Had had intermittent hematuria for 2 years, with 3 attacks, one just before seen, of acute colic on right side relieved by passage of worms with clots. An uneasy feeling, hardly a pain, in right flank. Patient was well nourished man. Had lost no weight. Had prostatic symptoms, and phronic prostatitis and mild cystitis. However, a jet of blood could be seen coming from right ureter at cystoscopy. Temperature 100-101, irregular and saw-toothed. No tumor could be felt clearly. No ulceration of the ureteral orifice, no pus or T. B. in the sprainer through the ureter catheter. Nothing but blood. Urine of affected side good in every way. X-ray showed no stone. Bleeding was not controlled by intrapelvic adrenalin infection. Operation was advised and the kidney removed. This was done 2½ years ago, and the patient has been perfectly well since. The kidney showed an encapsulated typical hypernephroma, as big as a hen's egg at the upper pole. The kidney shelled out easily and there was no intravenous growth.

Case 3.—Laborer, 42 years old. No history obtainable except that he had passed stones 3 times, and had had bleeding for a long time. A tumor was palpated over the right kidney arc which seemed fluctuant. On cystoscopy bloody

urine was seen coming from right ureter. On collecting this it was of poor quality and mixed with considerable pus. A radiograph showed a fair sized stone in the right kidney pelvis, and a diagnosis of partial ureteral occlusion with a hydro-pyonephrosis was made, accounting for the kidney mass. At operation, where I proposed to do a nephrotomy, I found the mass to be a rather soft tumor which had almost entirely replaced the kidney substance, but was not adherent to the surrounding structures. There seemed two growths into the renal vein, so the kidney was removed with the upper part of the ureter *en bloc*. A typical hypernephroma was found which had almost replaced the kidney substance and had started to grow into the renal vein. In the infected pelvis was a pure prosphatic calculus weighing 65 grammes. The patient has recovered and since then, 8 months, has had no further trouble.

Case 4.—Female child, 19 months. Always healthy to date. Six weeks before a tumor was noticed in the upper right abdominal quadrant, and the child started to emaciate very fast. The tumor grew with enormous rapidity and when seen weighed more than the child, filling almost the whole abdomen. It was firm and lobulated, except in its most protruding point, where it was fluctuant. The child was very emaciated and died two days after admission. There were metastases everywhere, and direct extension through the diaphragm into the pleural cavity of the right side and into the right lobe of the liver. The tumor was a typical small round celled sarcoma.

Case 5.—Boy, aged 12 years. History negative, except malaria the year before; No pain. No hematuria. A tumor had appeared on the left side 4 months before which his doctor took to be an enlarged malarial spleen. The boy started to loose weight, and the tumor grew rapidly. When first seen was of large size, firm, lobulated, and well behind the splenic flexure and descending colon. A tentative diagnosis of kidney tumor was made and an exploratory was done. At operation the mass was removed with difficulty on account of its size, as it weighed almost 8 pounds. The patient made a good recovery, regained flesh and has been well since, four years ago. The tumor was a large spindle cell sarcoma. There have been no signs of recurrence or metastasis.

Considering these cases, where the operation result, when attempted in time, has been excellent, and looking on Garceau's list of operated cases, with remarkably good results, one could give a very fair prognosis, given early diagnosis and immediate nephrectomy. The technique of kidney diagnosis has been so perfected of late years, that early discovery of kidney tumor is comparatively easy, and the percentages of operative mortality and recurrences should be, in time, very small indeed.

CEREBRAL COMPRESSION.*

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ANATOMISTS describe three distinct membranes covering the brain; but from the clinical aspect there are only two: first, the dura; and second, the pia-arachnoid, as these two are so closely associated, clinically, we can speak of them as one.

The brain is hung inside the skull in such a way as to be practically bathed in fluid. This is equally true of the spinal cord, and we must bear in mind the communication between the fluid around the spinal cord and that around the brain through the foramen of Magendie, located at the floor of the fourth ventricle. The circulation of this fluid throughout the brain is of importance. The choiroid plexuses, while projecting into the ventricles, are really separate and distinct from them. The fluid is secreted by the choroid plexuses into the ventricles, and from there it passes into the subarachnoid space through the various openings. (Monroe, Magendie and Luschka.) Here it is taken up by the Pacchionian bodies and cerebral veins. One can readily see the importance of a clear understanding of this circulation when any obstruction to this outflow will become an important factor in producing cerebral compression.

The lymphatics of the brain have not been studied as carefully as we might wish. It is usually assumed that in an organ freely drained by lymphatics, an infection of that organ will produce marked constitutional symptoms. This is very well illustrated in infections of the gall-bladder and ducts, as we know that lesions confined to the gall-bladder produce a minimum of effect compared with the infections of the common duct, the latter being freely drained by the lymphatics. This point may well account for the clinical fact which has long been known: namely, in diseases of the brain when a rise of temperature occurs, probably an involvement of the meninges or a thrombophlebitis is present, and therefore the case has a much greater aspect than such symptoms would indicate in any other lesion. In one instance I have seen the whole frontal lobe involved in a large abscess without elevation of the temperature. One could scarcely imagine this condition present in any other part of the body without producing more marked symptoms.

The arterial circulation of the brain is carried on by means of the carotids and vertebrals. The venous circulation, however, is exceedingly intricate. Generally speaking, the veins empty into the sinuses, and these in turn, into the jugulars. Again one can see how important the venous circulation becomes, as any obstruction to its outflow will produce œdema, and this I believe

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to be one of the prominent factors in cerebral compression.

The pathology of the brain lesions may well be divided under the following heads:

First. Contusion.
Second. Concussion.
Third. Compression.

It is exceedingly important for us to appreciate definitely the pathology of each of these lesions, because the treatment will depend entirely upon which type be present. In contusion and concussion of the brain we expect recovery to occur without any surgical interference; but when we step over into the other lesion, hope must be centered in surgery.

There has been some confusion regarding the two terms, contusion and concussion, even to the extent of eliminating at least one of them. Under both of these heads one should include minute hemorrhages, producing unconsciousness from a few seconds up to ten or twelve days. These are known to be present, even though they are, at times, very difficult to demonstrate by the microscope.

Compression, however, has a very definite meaning. Under this head we must include any lesion whereby pressure is exerted upon the brain. These vary in frequency in about this order:

First. Hemorrhage.
Second. Depression of bone due to injury of skull.
Third. Excess of fluid.
Fourth. Infections of the membrane.
Fifth. Tumors.
Sixth. Bullets or other foreign bodies.
Seventh. Pachy- and lepto-meningitis.

For our purpose it will only be necessary to consider a few of these conditions, as the majority of them are thoroughly understood.

Those cases coming under the head of excessive fluid may be of several varieties. In fact, it is more than likely that excessive fluid, œdema, for instance, plays a very important part in the compression ascribed to other factors, such as bone injuries, hemorrhages, etc., through the interference with the return venous flow. Should there be a closing of the foramen of Magendie, for instance, distension of the ventricles will occur, producing hydrocephalus. Again, should any local cause produce venous obstruction, we will have œdema, which in turn gives evidences of cerebral compression. I am inclined to think that this plays a very important role as a causative factor in many of our obscure cases. Not infrequently, following injuries, the patient will remain conscious for a few hours, and complain of few if any symptoms. Then follow evidences of cortical irritation, as twitching and jerking movements, possibly headache, until the patient becomes exceedingly restless. This, in turn, is rapidly followed by stupor, and finally coma. I believe these cases of acute compression must be due to this cause, because autopsy frequently fails to reveal any other causative factor.

Diagnosis of compression has usually been made by three cardinal symptoms: headache, vomiting, and choked disc or papillœdema. The term "choked disc" is an unfortunate one, as it depends upon the amount of œdema present whether the ophthalmologist describes it as a choked disc or an optic neuritis. The term "papillitis" is objectionable because it implies an inflammatory reaction. Papillœdema more clearly expresses the condition than any other. Following the cardinal symptoms we find mentioned: slow pulse rate, increased blood pressure, inequality of the pupils, changes in the reflexes, changes in the mentality, occasional convulsions, obstinate constipation, and finally degrees of paralysis. The majority of writers state that if one of the three cardinal symptoms mentioned above be absent, then the diagnosis of brain pressure must be gravely doubted. It is not so very long ago in surgery of the gall-bladder that men believed jaundice should be present before diagnosis of stone could be made. Now we realize, if we are going to operate these patients, the diagnosis ought to be made previous to the time of duct obstruction. Possibly the time may arrive when we will make our diagnosis of brain pressure equally early, not waiting for these typical pictures to occur. Usually when a tumor of the brain has assumed proportions sufficient to produce these symptoms it is at that time producing serious pressure, and any operative measures must usually be made with the object of temporary relief rather than that of curing the patient. The time for radical extirpation in these cases is usually occupied in making a diagnosis, and their hope in the future lies in early diagnosis before the opportunity for radical operation is lost.

Take, for instance, *papillœdema*. There is still considerable doubt how these lesions should be interpreted, but I presume we may have a papillœdema present, separate and distinct from any optic degeneration. I can imagine a small tumor located posteriorly in such a way that it very early increases the fluid in the fourth ventricle, thereby producing papillœdema. Here the eye symptoms would be among the very earliest signs, but in the majority of tumors and other lesions of the brain producing pressure, papillœdema must necessarily be one of the late signs. Autopsy records in cases of brain tumors show choked disc to be present in over 90 per cent. of the cases. This is not a fair way of interpreting the importance of this sign, since when the patient comes to autopsy the tumor has doubtless accumulated sufficient pressure to cause choked disc. If choked disc be present in a given case it is very valuable and almost pathognomonic; but should it be absent one cannot rule

out the possibility of tumor. Further, in the beginning of these cases of papillœdema it is very difficult to state positively whether the condition be due to atrophy of the nerve, associated with either nephritis or syphilis, or whether it be secondary to a tumor. Again, in experimental work, I am told, where artificial pressure has been maintained over a considerable period of time, there are no changes in the disc. This makes it appear as if there were certain toxic elements associated with pressure in producing these lesions. On the other hand, in certain cases where pressure has been released, the improvement in the disc has been most marked.

Headache is of very great importance. It is almost always present, and in many instances almost uncontrollable. In our cases it has been of no value in localizing the lesion. The frontal tumors, as well as the cerebellar ones, have usually had headache in front as well as behind. In one reported instance of abscess in the frontal lobe the headaches were severe, but entirely occipital. In two of our cases there was a distinct history of headache previously, but when seen by us it had disappeared. The same might be said of vomiting. All our cases give histories of projectile vomiting, but in at least two instances it had entirely ceased.

Inequality of the pupils, if you can rule out any pre-existing lesions in the eye, is fairly indicative of pressure inside the skull; but at the same time there are so many lesions that can produce this inequality, it is of no value in locating them. Careful examination of all *reflexes* should be made. Each reflex consists of a sensory impression, a center and a motor response. The simplest example of this lies in the knee, where after tapping the patellar tendon, the impulse is carried up the sensory nerves and the posterior roots to the anterior horns in the lumbar segments, and from here the motor response is carried by means of the anterior roots and the motor nerves. If there be a lesion in this circuit anywhere, there is absence of this reflex. Ordinarily it is supposed in cerebral lesions there is an exaggerated reflex because the inhibitory control is lost. It is positive there is some control above the primary arc because in complete transverse lesions of the cord above this point there is absence of reflexes. Cerebral lesions, then usually give exaggerated reflexes, although exceptions are very prevalent. In one of our cases of cerebellar tumor the reflexes changed from day to day. When he came into the hospital they were absent, later they became exaggerated, and finally again absent.

The relation of the blood pressure to cerebral compression is most interesting. The work of Leonard Hill along these lines is as entertaining as any story book. "On the one hand there is cerebral compression producing medullar anemia, held in check on the other by the vaso-motor appeal to the circulation for help. This help comes through increased arterial tension. As compression increases more urgent appeals are sent until from vaso-motor fatigue the arterial pressure drops permanently below the pressure on the medulla. Respiration then fails and the uncontrolled heart finally allows arterial pressure to drop to zero." This the Cheyne Stokes breathing seen in some of the operative cases.

Convulsions following cerebral injuries are quite frequent, but in only one type do they help us in any way in localization. The presence of convulsions following injuries is a very definite sign of brain involvement, but unless the convulsions be of the Jacksonian type it will not help toward locating the lesion. Convulsions having their first expression in, say, the left hand, are a very definite and positive indication that the lesion is located over the right motor area. The same may be said of paralysis. When it occurs in a given part of the body it is positive that the lesion is located over the corresponding part of the motor area. This is, of course, exclusive of those lesions occurring in apoplexy, which are located at the internal capsule. Spasm of any extremity may be present rather than complete paralysis. This is an evidence of cortical irritation on the opposite side and it may be present in lesions of the base, where hemorrhage has extended upward to the cortex. It is very important to ascertain if the paralysis came on immediately or if some minutes elapsed between the injury and the paralysis. If there has been any interval of time between the two the paralysis is quite likely due to clot. What has been said of the motor area is equally true of any of the other centers of the brain.

The withdrawal of the spinal fluid from the second lumbar space is often of the greatest help in diagnosis. It has been a wonder to me why this procedure has not been utilized more frequently, when by such a simple expedient we are able to learn so much in certain brain and cord injuries. Because of the communication between the spinal and cerebral fluids, the presence of any great quantity of blood in the one will show up in the other. So in an injury of the skull where the diagnosis rests between hemorrhage and, we will say, concussion, if there be any quantity of hemorrage present, positive diagnosis can immediately be made by the withdrawal of a small amount of spinal fluid. This, not infrequently, aids materially in relieving brain pressure under these circumstances. In at least one instance that occurred recently very marked improvement followed the withdrawal of the fluid. This is equally true of injuries to the spine, because where a clot is located in the upper portion of the cord, the spinal fluid below will be tinged with

blood. There is one notable exception to this fact. Only very recently, in a crushing injury to the spine, I introduced a needle into the subdural space and was unable to withdraw any spinal fluid, although I did get half a dozen drops of blood. At operation I found the spine crushed so as to completely sever the cord, and because of the opening in the dura the spinal fluid escaped into the cellular tissues.

While this procedure is of very great importance in cases of *injury* to the head or spine, its use in compression due to new growths is fraught with considerable danger. There have now been about twenty deaths reported following lumbar punctures in tumors of the brain located below the tentorium. While there has been frequent mention of this point in the literature, I am sure it needs further emphasis, as there are still men who make this a routine practice in these cases. I am aware of the good results occasionally happening, like the relief of headache, etc., where it has been done with a true appreciation of its danger, but this is altogether different from using it as a routine method of diagnosis. All of the reported deaths have occurred inside of thirty-six hours, but many have died within a few minutes. Death is probably due to pressure on the respiratory center in the medulla.

The value of microscopic examination of the spinal fluid has been somewhat exaggerated. A differential count may prove of value, while a positive bacteriological culture will be of the greatest importance in many cerebro-spinal infections.

The diagnosis of pachy-meningitis and lepto-meningitis depends chiefly upon two things:

First, convulsions. When these are present with the history of the injury, and begin in one part of the body, later becoming general, it is exceedingly suggestive. If, however, it should be located in a portion of the body remote from the motor area, then convulsions will probably be general in character. We must not forget that many so-called general convulsions may be of the Jacksonian type had we only sufficient knowledge of cerebral localization to recognize them as such.

Second, limited areas of paralysis. These will differ according to the part of the dura involved. If the dura over the speech center, for instance, be involved, we will have changes in the speech varying from a hesitation to complete aphasia. So, as far as the extremities are concerned, it may vary from slight muscular weakness to complete paralysis of the extremity, depending upon the extent of the process. Occasionally we have a third factor in a complete change in the mentality of the individual, as, for instance, in case one, we find him changed from a quiet docile man to exactly the reverse. The Associated Press has recently given undue notice to such a case.

Localization of brain tumors is an exceedingly difficult problem. The ground has been very thoroughly covered by a very large number of papers within the last few years. In fact, I believe that about as much has been accomplished by the neurologists and surgeons as is possible, until the physiologists come to our relief by giving us a more accurate knowledge of cerebral localization. Clinically we try to divide tumors into those involving the frontal lobe, the motor area, the cerebello-pontile angle and the cerebellum. At times inco-ordination, usually associated with cerebellar tumors, can be caused by frontal tumors. It is further believed when one cerebellar lobe becomes involved, its function is carried out by the opposite frontal. This at times makes diagnosis between the two well nigh impossible.

Each case should receive a very careful and thorough physical examination. In many cases there will be a complete absence of localizing symptoms, and it is only by a most painstaking study we are able to recognize these when they are present. We should make a careful study of reflexes, paralyses, involvement of more especially the cranial nerves, ataxia and inco-ordination (both in the recumbent position and walking, with the eyes open and with the eyes closed), and then carefully consider to which part of the brain these point. Regarding the value of Babinski's adiodokokinesia sign, I have not observed it in our cases. The accurate localization of these growths, under the most favorable circumstances, is exceedingly difficult, and in a large percentage the almost complete absence of signs will make it well nigh impossible. At present the diagnosis in these cases is largely a matter of exclusion. Speaking very generally, changes in mentality, cordical irritation, etc., point toward the frontal lobes; involvement of the cranial nerves, especially the auditory, to the cerebello-pontile angle; while the general absence of symptoms with evidences of inco-ordination lead us to suspect the cerebellum. There are exceptions, but the rule is, when the symptoms are more marked on one side than on the other, the tumor will be on the corresponding side of the cerebellum. With the exception of tumor of the pontile angle, accurate diagrams are at present well nigh impossible.

In the treatment of cerebral injuries the ordinary trephine has almost passed into history. For exploratory purposes it gave us altogether too small an opening, and consequently it was essential to devise some means of exposing a larger area of brain. This is now best accomplished by means of the bone flap. By drilling the skull in several places and connecting these openings with any particular instrument one desires—either a cutting forceps or a gigli saw—and then breaking the base of the flap, we can expose any given area of the brain desired. In

this instance we have the added advantage of restoring the skull to its original contour, as when the operation is completed, this flap is replaced in its normal position.

In exposing the brain by this flap method it is imperative that the periosteum be kept attached to the bone, otherwise necrosis will follow. This is best accomplished by a forceps (Krause) made after the fashion of an ordinary vulcellum, which holds skin, periosteum and bone in place.

Heretofore in these lesions we have been accustomed to treat the brain with too great deference. In epilepsy of the Jacksonian type, I think it is advisable to completely excise the center rather than simply separate any adhesions which happen to be present. Paralysis will of course follow for a certain length of time, but in at least two instances that I can recall, there has been complete recovery following this method. These patients are now well for three years. The same may be said of those cases of local pachy- and lepto-meningitis, as it is not sufficient merely to expose same without complete excision.

As a general principle, where pressure is present it must be relieved. When the condition that produced the pressure is accessible, then it ought to be removed; but if it be inaccessible, either through location or great size, we can accomplish a similar purpose by excising a certain amount of the skull, thereby giving the brain an opportunity to occupy more space.

Fortunately, while we cannot accurately localize the tumors, we can diagnose compression and can alleviate several of its most distressing symptoms. For instance, headache is often continuous, total loss of vision a certainty, and in decompression we have a therapeutic measure which usually gives temporary, and occasionally permanent relief. Leaving aside these cases apparently cured by decompression, the temporary relief afforded many others is ample justification for its more general use. Regarding the location, the right subtemporal opening is most popular. This, of course, should only be true where the speech center is located on the left side; in left-handed people it should be made on the left side, because here the speech center will probably be on the right side.

Regarding the use of decompression in cases of fracture of the base we have had scarcely any experience. In view of the experiments carried out by Crile, it is certain that many of these cases of fracture of the base are literally dead, although they continue to breathe and their pulse still beats. In other words the pressure is sufficiently great to destroy the centers, and no amount of decompression under these circumstances will avail. I do not doubt that in the less serious cases decompression may be of material benefit. It would seem as though we ought to go slowly in advising this operation in these cases. In the first place probably the majority of fractures of the base get well under the expectant plan of treatment. Quite a number of serious ones will die no matter what be done, because the pressure has lasted sufficiently long to destroy the center. Therefore it leaves but a small number of these cases where it would be advisable to employ decompression. However, it has always seemed to me we have been content to allow our hands to be tied in these cases. I know, in times past, I have allowed cases to die without any attempt at release of pressure, where a decompression might have been of benefit. I thoroughly believe that in a certain proportion of the serious cases decompression is a step in the right direction, and in the not far distant future probably we shall resort to even more radical measures to save these cases.

Decompression on both sides has met with little favor, as there seems to be a greater mortality in this operation than when it is done on one side only. I know of no operation requiring the use of greater judgment than decompression. For instance, if the opening be made too large and there be a great pressure present, a hernia will ensue, probably causing motor paralysis. The question arises: How can this be obviated? In the subtemporal operation this is less likely, but even here I have known it to occur. It would seem to be wise where there is any great tension to merely remove the bone without opening the dura. If, after several days, the tension remains great, make a decompression on the other side without opening the dura; then, when the pressure has been equalized, open the dura on the right side. It is just possible, in this way, some of the untoward accidents may be avoided.

Regarding the subtentorial decompression I have had very little experience. It would seem to me it were a matter for exceedingly careful consideration to decide upon an exploration or a decompression; and, if a decompression be decided upon, whether it should be subtentorial or subtemporal.

In cases of chronic meningitis involving either the dura or the pia, where the condition is local these areas ought to be excised. These lesions are very frequently tubercular, and often it is impossible, on account of the extent of the condition, to completely excise them. Here we have a condition which is very similar to that of tuberculosis of the peritoneum: in each case a serous membrane is involved—and if, in case of the peritoneum, simple exploratory operation frequently results in a cure, it would seem that in the other instance exploratory operation would prove of similar benefit. So in local tubercular lesions of the meninges—if complete excision be impossible, it is certainly wise to expose them to the air, puncturing any small collections of fluid which may be present.

Up to the present time there has been very

little success in the treatment of the general infections of the meninges; but if we look back on a similar condition of the peritoneum, it is only a few years ago that we considered it to be practically hopeless. Now we know that it is largely a question of the time that has elapsed between the perforation and the operation, as nearly all the early cases get well. Satisfactory drainage here is very difficult, but if we could open our cases of general infections of the meninges early, and could establish free drainage, doubtless much improvement would follow. Irrigation here as in the peritoneum is of doubtful efficiency. Personally I do not believe in irrigating the peritoneum, but as yet my experience in the cranium has been too limited to be of any value.

Regarding the use of urotropine in these cases we have not met with the success anticipated. From the experimental work, however, I believe it should be given a very thorough trial. Very likely its chief use will be in the prevention of infection rather than in the treatment, once it is established. I believe for the present all injuries to the skull, where there is a possibility of infection, should be placed under this drug. I should further advise its use preparatory to all operations upon the central nervous system.

Case 1. *Pachy-meningitis.*—Some months before, patient fell out of a wagon, striking his head. He was not aware of any injury at the time, but ten days later he was taken with convulsions. These at first occurred about once a week, and later more frequently. There was a distinct change in the mentality of the patient. He was kind and docile previous to his injury, but since then he has had fits of temper, wanting to fight with people, and later would remember nothing about it. The convulsions were not of the Jacksonian type. Discs were reported normal; blood pressure, 110. On inspection, after having shaved his head, a certain deformity of the skull was seen which was evidently the seat of injury. At operation by Dr. Park a bone flap was raised over this area, which exposed a pachymeningitis quite limited in extent. There were a number of areas which, on puncturing with a needle contained fluid, not unlike a localized œdema; and scattered between these were several whitish streaks suggestive of tuberculosis. The dura over this area was completely excised, the bone flap replaced, and at the present time—now about two years—there has been no return of the convulsions, and his mental condition has markedly improved.*

Case 2. *Lepto-meningitis.*—J. S. entered the wards of the Buffalo General Hospital giving a history of a fall some months before. He first noticed a difficulty in moving his right leg. Later the arm became involved. Finally almost complete paralysis of the speech center ensued. He was able to articulate to the extent of saying "yes" and "no," but nothing further. This case showed no evidences of brain pressure. Reflexes were very markedly exaggerated. No change was present in the discs, and blood pressure was 115. Operation showed a number of areas similar to those found in case 1, only they were located in the pia-arachnoid instead of the dura. Cultures taken from the punctured field proved negative, and on account of the extent of the lesion in this particular case, I was loath to completely excise the pia. After two or three days, following the operation, he was able to say a few more words, and about six weeks after the operation he could run two or three words together. The spasm of the right arm and leg had almost entirely disappeared. The reflexes are still exaggerated but not to the same extent as before.*

Both of these cases illustrate: first, the value of exploration in these doubtful cases; and second, the possibilities of surgery in the local pachy- and lepto-meningitis.

Case 3. As this case presents some rather peculiar conditions I will record it more in detail. His family history is negative with the exception of one sister dying of tuberculosis, and one sister now ill with some form of insanity. The patient was 45 years of age and a contractor by occupation. His health has always been of the best. He has engaged in outdoor work all his life, and says that up to his present trouble he has never been ill in any way.

His present illness began about three months previous to the time of consulting us, with a buzzing in his right ear. This gave him no particular trouble, but as it continued, he consulted a doctor at his home in Vancouver, B. C. During the examination, which included the eyes and ears, an œdema of the discs was discovered. Nothing abnormal was found with the ears. About this same time he began to have headaches. These were of marked severity for a time. Occasionally, also, he had projectile vomiting. After about a month of this the headaches grew very much better and the vomiting ceased. The disturbance in the ear practically subsided, and were it not for the fact that examination of his eye showed a progressive papillitis he would have been regarded well. Patient says that he noticed some twenty-six years ago a difference in the sight of the two eyes. When reading vision in the left eye was better than that in the right.

Patient has lost twenty pounds in weight, but says he has gained five or six pounds in the last two weeks. Examination at this time shows urine entirely negative with an unusually high elimination. There is no lymphatic involvement or other evidence of syphilis. Wasserman reactions, three in number, were all negative. von

*A recent letter says he is now holding a responsible position, his fits of temper have entirely disappeared, and there has been no return of the convulsions.

*I have not been able to find the man to learn his present condition.

Pirquet was negative. The blood showed 98 per cent. hemoglobin; 5,100,000 reds; leukocytes, 9,500 polynuclears, 75; small lymphocytes, 18; large lymphocytes, 6; eosinophiles, 1. Nothing abnormal noted in the character of the red cells. Blood pressure, 115.

Repeated eye examinations showed a double papillitis with hemorrhages. These progressed rapidly and it became evident that his sight would soon be gone. There was no change in the color fields; no nystagmus, and no paralysis of the muscles; pupils even; reflexes were normal; ankle clonus and Babinski absent. There were no evidences of ataxia. Patient walked equally well with eyes open and closed. There was no swaying with eyes closed, and co-ordination was seemingly perfect. Adiodokokinesia sign absent.

Repeated examinations of the ears failed to reveal any disturbance therein. There was no evidence of an involvement of any of the cranial nerves. There was no motor or sensory paralysis. There were no convulsions. In fact, in summing up, the man presented slight headache, more or less constant, and a rapidly increasing papillœdema with marked hemorrhages into the disc.

The eye examinations were made by Dr. Crosby of Vancouver, and Drs. Howe and Francis of Buffalo. The neurological side of the case was studied by Dr. Putnam. In view of the rapidly increasing papillœdema, the continuous headache, and the absence of localizing symptoms, a decompression was advised. A subtemporal opening was made on both sides and the dura pulsated normally. The right dura was then opened and as no great tension was observed, the same was done on the left side. Here the pressure was greater, but still not particularly marked. Following the operation patient complained of being exceedingly lame and tired, but otherwise in good condition. In about six to eight hours, however, he became restless, throwing his arms and legs about the bed. This continued for about twenty-four hours, when he was again taken to clinic, thinking that some cortical irritation due to hemorrhage might be present. The flaps were reopened and it was discovered there was marked protrusion of the brain through both openings, but much more marked on the left than on the right. Nothing more was done in a surgical way. After returning to the room patient rapidly grew worse, finally lapsing into deep coma.

Autopsy showed a marked protrusion of the left side through the decompression opening; less so on the right. There was no fluid present, ventricles being apparently empty. Careful sections of the cerebrum failed to discover anything abnormal. In the cerebellum, however, on the left side was a distinct cavity about the size of an olive, filled with old clot. Upon opening the left lateral sinus a clot was found which was evidently recent. Section failed to reveal any evidences of tumor formation in the cerebellum. Sections of the optic nerve showed many areas of hemorrhage.

Reviewing this case there are many points of interest. What produced the hemorrhage in the cerebellum and in the optic nerves? Was there any relation between the lateral thrombosis and the operation? A kidney lesion or syphilis might explain the hemorrhage, but this seems impossible in view of the facts: first, that three months' careful study of the urine failed to reveal anything abnormal; and secondly, repeated Wassermann reactions, both before the operation and after death, were negative.

I have very little doubt the evidences of acute compression following operation were due to thrombosis of the lateral sinus, but it is difficult to explain a thrombosis in the lateral sinus in so simple a procedure as a decompression. It is just possible the same unknown factor which produced the hemorrhage in the cerebellum was the cause of the lateral thrombosis. In any event this case illustrates how serious cerebral compression may be due to interference with the return venous flow.

There are two other cases that I should like to report very briefly. First, a case which presented paralysis of the 6th, 7th and 8th cranial nerves on the right side together with a previous history of headache and vomiting. The vomiting had now ceased but the headache was constant. The paralysis of the 7th and 8th was not complete, only partial. She had also attacks closely resembling cerebellar fits. Operation revealed no tumor, and this was confirmed by autopsy.

This case should be placed along with others and reported under the head of pseudo tumors, as in the surgery of the brain we must be on the lookout for just this type of case as any unnecessary operation only brings discredit to surgery.

The other case was a young boy of 13 years of age who presented one sign which I wish to call attention to as being indicative of tumor of the cerebellum. He did not show very many of the ordinary symptoms of tumor, the chief one being choked disc, but he did present one other positive sign of pressure on the skull over the cerebellum. You could indent the bone as you would a derby hat. This was more marked on the right side than it was on the left, but still present on the left. This of course, was absolutely positive that something was making pressure upon the bone and eroding same. Autopsy in this case showed a large tumor on the right lobe of the cerebellum. It was sufficiently large that it extended well over towards the angle, but did not make any pressure upon the cranial nerves.

THE NERVOUS WOMAN.*

By EDWARD B. ANGELL, M.D.,
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YOU all know her. She is a common and sometimes a troublesome visitor. Nor is she always a woman. Some men are nervous, and occasionally a doctor. Indeed, in the series of one thousand cases here studied, there were only sixty more women than men.

Of course nervousness is not a disease, unless you get it yourself; or some member of your family is its victim. Then it no longer is imaginary. It is very real and oftentimes a very troublesome condition. It is no longer a theory—but a fact.

What then is "nervousness" which we Americans are told is the national disease? It certainly is not an imaginary ailment, although it may be in truth a disorder of the imagination. It is not a disease that threatens life or even the sanity of the sufferer, but it makes the victim miserable and his friends and family oftentimes martyrs to his complaints.

I am aware that these are the cases to which you usually attach the term "neurasthenic" or "nervous prostration." A careful study of these nervous cases, however, does not yield the symptoms characteristic of a real loss of nervous vigor or the extreme exhaustion noted in true neurasthenia.

While I sympathize with the lot of the average practitioner whose sympathy and attention are engrossed with diseases that threaten life, rather than with imaginary complaints and morbid fears of the nervous patient, yet I no longer make light of her unhappy lot. The misery and misfortune of nervousness demand your consideration and helpful sympathy quite as much as graver maladies.

Nervousness is a disorder of the mind rather than a disease, dependent upon a depressed, not exhausted, nervous activity. It is a disturbed or rather a perturbed state of consciousness, due to an exaltation of the emotions, self-attention and fear, with a corresponding repression of the so-called rational qualities of the mind, judgment, reason and will. You will agree with me, I am sure, when I say the nervous person is a little off. There is, in fact, an enfeebling of the power of mental synthesis, a condition in which feeling dominates the mind and in a measure controls the action of the individual. It is proper to say that, while nervousness is not the mental property of the neurasthenic alone, our classification is in truth somewhat arbitrary. Personally I am inclined to regard neurasthenia as an exhaustion neurosis; common nervousness which we far more frequently see rarely displaying the marked fatigue of the central nervous system, the vaso-motor disturbances, the extreme muscular weakness, or the quick exhaustion following exertion. In the neurasthenic reaction is quicker but is speedily weakened, a condition quite contrary to that of ordinary "nervousness." Indeed, the term neurasthenia or "nervous prostration" has been very much abused, and at the present time seems to have taken the place of malaria in the nosology of a generation past. It is too commonly used to include any weakness of the nervous system or mind and has, in a measure, lost the significance that properly attaches to it. I venture this statement because, in my experience, only about 10 per cent. of the so-called nervous cases coming under my care can be classified as true neurasthenics. Yet the more serious malady has symptoms quite in common with its near relative.

Let me cite a case of "nervousness," one, by the way, of a man: William H. B., age 49, salesman; heredity, good; habits, good; organization, nervous; disposition, hopeful; health, always good; usual weight, 200 pounds. He had suffered for the previous two or three years, somewhat more of late, from marked nervous depression. He had excruciating headaches, he slept poorly, he was depressed and gloomy, emotional, given to sighing, constant self-introspection and was apprehensive of the "bug house," to use his own expression. He felt good for nothing, was constitutionally tired, was disinclined to exertion, was nervous, irritable, and unable to fix his attention upon objective effort. He said that his mind was dull, slow and forgetful. The mental hebetude was so marked that he was referred to me by his physician for the purpose of locating a supposed "tumor of the brain" with a view to trephining.

I am sure you will recognize this as a fairly good type of the cases of which I am speaking.

This was, indeed, no imaginary ailment. Self-attention, self-feeling or self-consciousness was its most marked indication and the most difficult to overcome.

Undoubtedly heredity, education and environment have much to do with establishing a soil favorable for the development of nervousness. But while I am ready to recognize the importance of these factors I must confess I have been compelled, from careful consideration of my own cases, to lay less stress upon these underlying conditions than most text-books do. Education, or rather the early training of childhood and the cultivation of fear especially, has more to do with the later development of nervousness than the other two. In fact my own case records show a singular freedom from serious hereditary stress, such as the insanities, epilepsies, hysterias, choreas or alcoholism, although nervousness in one of the parents is reported in about 30 per cent. of the cases. More often I find data in the personal history of the patient, such as severe frights in infancy, night terrors,

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ill nourishment during the formative period of the brain, etc. Unquestionably these conditions favor mental instability. But that leads to graver and fortunately rarer phenomena. The arthritic diathesis, as an inherited factor does play an important role, it having been noted in about 30 per cent. of these cases.

Furthermore I am convinced that pelvic disorders in women have much less to do with nervousness than is usually supposed, a conviction in which I am supported by eminent gynæcological authority. The two conditions, pelvic disorders and nervousness, are often associated, but the causal relationship is rather one of education or suggestion through popular belief, grounded upon false medical teaching. The close relationship existing between the sexual functions and the self-consciousness of the individual is unquestionably a factor in this question, but it is psychological, not physical. In fact, in my own experience, it is the male patient who more frequently associates some perversion of the sexual function with his nervousness, rather than the female, an observation quite in harmony with the recent teaching of psychology.

I am satisfied, however, that a radical difference in the training of the individual manifests itself in a greater preponderance, if it exists, of nervousness among women. A woman's mind ordinarily is distinctly subjective, *i. e.*, her attention is far more constantly fixed on self and the affairs that concern feeling and emotion than is the case with a man. His mind, indeed, is very largely objective in its activity, *i. e.*, he is concerned in his daily work with affairs entirely outside of personal feeling and is compelled by the exigencies of his calling to disregard nervous troubles. But woman can allow her aches and pains, her fancies and fears greater consideration. For this reason alone the natural training of life develops greater reaction in women to nervous fears than in men. It is also true that women are "more emotional, altruistic, intuitive, less judicial and less able to make disinterested and impersonal judgment" than man—to quote from Stanley Hall's "Adolescence." "For this reason and not by reason of her sexual organs women are more subject to 'nervousness' than men."

Furthermore depression of the mind in some, irritation in others, listlessness, difficulty in fixing the attention, "loss of memory," backache or ill defined rheumatic pains proclaim a toxæmic disturbance of the nervous system rather than a well-defined nervous disease. The eye balls are more or less yellow, the skin sallow, the tongue coated with a yellowish fur while the breath is often aromatic or even offensive. Many of these patients are troubled with constipation and show the presence of an accumulation of intestinal gas which does not escape naturally or only by eructations. Their circulation is poor, the hands and feet are cold while the head feels full and confused.

Such patients are emotional, apprehensive of the loss of mind or life, are blue, often without a cause, and uniformly confess to being unduly conscious of self with a corresponding lack of interest in outside affairs.

The disorder is real in the truest sense of the word. But too frequently the patient is laughed at, the symptoms regarded purely as imaginary and the victim is urged to exert her will power—alas, the one element of the mind most crippled.

But what of its exciting cause? It is not the stress of life, overwork or worry, accident or shock, physical or mental, that usually causes the disorder, although they may open the drama.

From a long experience I am led to regard disturbances in metabolism as the direct cause of nervousness, except in the relatively few cases dependent upon mal development of the central nervous system during the earlier period of growth.

In studying the urine of nervous people years ago, when working in a nervous clinic, I noticed how constantly the contact line in Heller's test was red or dark brown, a deep pigment line replacing the white ring of albuminous urine. The urine of normal individuals shows this pigment line, but nowhere near the deep tint of the morbid specimen. At that time I did not realize its significance. But later, in connection with the work done regarding diet, I found this sort of urine was constantly associated with a free use of nitrogenous foods. When one recalls the fact that for the ordinary adult the amount of nitrogen required to replace daily waste "is contained in a piece of meat the size of an ordinary chop," to quote Professor Chittenden, the intemperate use of nitrogen foods is readily realized. Again if one considers that over 80 per cent. of the nitrogen ingested is eliminated by the kidneys, the amount of work thrown upon these organs by a "meat eater" will be very apparent. And it is the meat eater or rather the nitrogen gourmand, for that high-priced luxury the egg is also guilty that becomes nervous. Such at least is the testimony of my case records. Seventy-five per cent. of these cases live indoors, a condition of existence which certainly does not favor efficient metabolism. We are not workers in the open air as in the past. We get less oxygen than our ancestors while our freer use of nitrogenous foods demands more.

I have also noted that in most cases of nervous people there is a sallow hue to the skin more marked over the abdomen and at the fold of the axilla, a condition, as you know, significant of defective elimination. Another factor in causing disturbance in metabolism, I am sure, is the undue use of sugar. Consumption of sugar

has tremendously increased during this generation, and is a potent cause of intestinal fermentation.

In these cases almost without exception, a careful examination of the nervous system—and I always make it, to insure my prognosis, as well as to reassure my patient—discloses no pathological change, only normal physical conditions. The urinary test in 70 per cent. of the cases shows the pigment ring very marked and gives a clue to successful treatment. In addition to this characteristic reaction the urine was persistently acid in nearly as large a percentage, as has been noticed by other observers, a condition which at times continued in spite of rather large doses of an alkali.

That this "pigment ring," so-called for lack of a better term, is associated with excessive nitrogen elimination is shown by the fact that a normal proteid diet is rarely attended by this urinary reaction. Furthermore the correction of the dietary results in diminution and later in disappearance of this reaction. Indeed, a correction of the diet alone by restricting the use of proteids and sugar, which latter has much to do with acid fermentation, will correct the diathesis and relieve the patient. A more speedy cure, however, can be gained by the administration of appropriate remedies. The use of the salicylates, in x gr. doses *ter in die,* and the correction of the acidity of the intestinal tract by the free use of an alkali are most effectual. The tongue will clear up, the sallow hue will fade from the skin; the dullness, the mental hebetude and depression, the backache, the irritability and apprehension will gradually disappear. And at the same time, or even earlier, this pigment reaction to which I have called attention will no longer be found. After a time, indeed, the patient may declare he did not have the symptoms of which he once bitterly complained, so superficially does this melancholic film overcast the mind.

But to be efficient this plan of treatment must be rigid and persistent. Sometimes two weeks will suffice to bring relief but usually two months are required. In obstinate cases a year of adherence to this regimen was necessary before the patient became entirely well.

Tonics, the usual resource of the physician, will power, Christian Science, mental healing, the Emmanuel church movement or other cult may help but do not cure this real physical condition. The primary need is to correct the chemical disturbance in digestion, the dietary error in the over-free use of proteids and stimulate nitrogen elimination by the kidneys. When this has been accomplished the helpful influences to which I just now referred may be of great value though indeed rarely necessary.

In many cases, especially those in which fear plays a part, intestinal fermentation is very common. Personally, I have no doubt but that a large accumulation of intestinal gas through mechanical pressure is directly the source of "fear" which so constantly haunts the victim. This fermentation should be remedied by appropriate measures, and with its correction the dread of impending fate will melt away.

Worry is not a disease, it is a symptom, an indication of real physiological disturbance, for with the correction of the diet and the removal of the toxæmia due to the disorder of metabolism the worry disappears even though the supposed cause of the worry still remains. Self-attention is lessened and the natural disposition and temper return, for, curiously 85 per cent. of the cases studied were normally of a cheerful disposition.

Moral influences, indeed, are of real value, but they alone are not sufficient. If, however, the patient is improving under proper treatment, much can be done through the laws of association to correct many of the nervous fears and obsessions of the individual. It must be remembered, however, that in nervousness it is the reasoning powers of the mind that become depressed while the emotional nature becomes more dominant in the personality. Hence, the ill success that attends the effort to correct morbid notions or nervous apprehension through appeal to reason. Remember that when the emotional nature of the victim is exalted he becomes very suggestible and a prey to every whimsical notion. You cannot reason with such a patient, but much can be done through indirect suggestion. Most frequently the association of the morbid idea with one that is ludicrous or impossible, an appeal to pride, not reason, will destroy a false impression root and branch. I well remember a woman of social rank who consulted me one morning because she knew she had "softening of the brain." Fear of this disease had driven her almost frantic. Realizing how vain argument would be I said to her, in a low tone of voice, "You are quite sure of the nature of your trouble?"

"Yes," she replied dramatically.

"Have you told anybody?" I queried anxiously.

"Why, yes," she replied, "my friends all know it."

Said I, "Don't tell anybody, pray don't."

"Why?" she asked.

"Why," said I, "don't you know the cause of softening of the brain, what a dreadful confession it is?"

"Why, no," she replied, "I supposed it was due to worry and overwork."

Then I told her the real cause of paresis. A moment's anxious suspense and she exclaimed, "Oh, mercy! I haven't softening of the brain."

I don't know as she liked the treatment but at any rate it was effective and I have not seen

her since. However, it is usually not necessary to hit the peculiar obsession so deadly a blow.

Nothing gives this class of patients greater relief than an assurance that their troubles depend not upon a lack of will power, or personal obloquy, but upon a real physical disturbance, the correction of which will liberate them from their burdens. In the case, cited earlier in my paper, of the patient sent to me for brain tumor, the thorough examination I made of his nervous system, showing absolutely no organic trouble, itself gave him a sense of relief, as you might well imagine!—Subsequent correction of his marked disturbance in metabolism, however, cleared the sky absolutely and speedily. In his case the urine was highly acid, had a specific gravity of 1030, had no sugar but with the nitric acid test the line of contact showed the marked and characteristic pigment reaction.

It is for this reason that I wish to emphasize the importance of this urinary test. Of its chemical nature I am, as yet, unable to give any account. It is not, however, due to indican, although indican may be present in association with it. It is not due to the color of the urine as some of the most marked reactions have been found in pale urine. It is not due to bile though bile may be present at times. It is not significant of uric acid since solutions of uric acid give no response to this test whatever.

It is a simple test, of clinical value, and when found in cases of nervous people who are free from organic disease, it is quite suggestive of the cause of the nervous conditions. I do not claim that all nervous people who suffer from this disturbance of metabolism and whose urine gives this characteristic reaction can be cured. It is needless to warn you that some of your patients you cannot control, especially when dietary measures are important. Furthermore the very nature of the mental depression oftentimes makes it impossible for the individual to adhere consistently to a plan of treatment that requires any considerable time.

The true neurasthenic, the weak-minded or the invalid, whose every whim is a law to a devoted family will require thorough isolation in a good hospital and the prolonged use of systematic measures, such as are employed in the "rest cure" for recovery. But, happily, a very large proportion of nervous people whose daily lives are a misfortune to themselves and a calamity to their families can be relieved by this simple procedure.

In many of the numerous cases of the so-called traumatic neuroses I am convinced the nervous disturbances are in reality due to these same causes. The fact that nervous symptoms follow an injury is by no means conclusive that they are due to injury. The same general subjective complaints form the burden of the plaintiff's "bill of particulars" and are luridly paraded before the jury by his attorney. Usually in such instances a careful neurological examination shows an absolute absence of structural lesion. Frequently the whole case is built upon a foundation of "nervous feelings" following some simple mishap, which are in reality due to digestive disturbances, induced either by sudden cessation of healthful occupation or by the over-feeding begotten by the mistaken anxiety of a sympathetic family.

Toxæmic conditions often complicate organic maladies. But while the patient can be relieved from the misery of the attendant nervousness he cannot, of course, be cured of structural disease through these measures. In my experience toxæmic conditions in elderly people are often dependent upon the early stages of kidney disease or general arterio-sclerosis, a possibility which must always be borne in mind in the efficient management of nervous folk.

THE REPORTING OF GONORRHOEA AS A METHOD FOR PREVENTING GONORRHOEAL OPHTHALMIA.*

By LUCIEN HOWE, M.D.,
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THE object of this paper is to show that THE method for preventing gonorrhœal ophthalmia is to prevent gonorrhœa itself. At a first glance that idea may seem chimerical—quite absurd—especially to one who has not given the subject much consideration. An attempt will be made here to point out,

First, that we should prevent or, at least, restrict the spread of gonorrhœa.

Second, that this is practicable and can be done, and

Third, that it should be done by societies like this; that part of the responsibility for the present blindness and suffering rests directly on you and me.

First.—As to why we should bring up this unsavory question of the prevention or restriction of gonorrhœa. Each practitioner could give reasons for that. The ophthalmologist is thoroughly convinced that the spread of gonorrhœa should be restricted, if only to lessen the terrible effects of ophthalmia of infancy. It is true that all of these cases are not due to the gonococcus Neiser, but those that are not are more than outnumbered by the cases of gonorrhœal conjunctivitis in adults. The facts concerning gonorrhœal conjunctivitis have been told and retold so often that they are familiar even to medical students.

It is well known, for example, that this is by far the most frequent cause of blindness. We know that it furnishes from one-fifth to even one-fourth of all the inmates of the schools

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for the blind, and is the most frequent cause of blindness among persons of all ages.

This disease costs the State of New York, simply for its blind who are in institutions, over $110,000 annually, and if we include all those who are made blind from it the total cost would be several times that.

Turning from one state to the nation as a whole it is safe to say that there are to-day from 7,000 to 10,000 persons in the United States blind because of this disease, and their support, directly or indirectly amounts easily to many hundreds of thousands of dollars each year.

Now, what are we doing to prevent it? Comparatively little. Taking the various methods of prophylaxis in order we have First, in many of the states a law which requires nurses and midwives to report these cases promptly to some legally qualified practitioner. Second, and most valuable, we have the Credé method of applying a drop of a 2 per cent. solution of silver nitrate to the eyes of every new-born child. Next, we have a whole group of remedies of more or less value which have been used for the prevention of this disease. Finally, we have also committees for the prevention of ophthalmia neonatorium in the national and state medical associations and in the American Ophthalmological Society.

Fourteen years ago I published a résumé of the different methods available, in the Transactions of the American Ophthalmological Society under the title of "Crede's Method for the Prevention of Purulent Ophthalmia of Infants in Public Institutions." In that article a digest was given of the results obtained by these methods of prophylaxis in over 54,000 cases. I call attention to this article because of the lamentable fact that during those fourteen years practically no change has taken place in the status of our knowledge concerning this form of prophylaxis.

It is true that statistics show apparently a slight decrease in the number of cases of ophthalmia of infancy during the last twenty years. It is also true that a great deal has been done of late for those who are already blind. By a common impulse communities and states have recently joined in an effort for ameliorating the condition of the blind. We have several state commissions to study their condition, associations for assisting them, and the Sage Foundation has recently inaugurated a noble effort in their behalf. But all of these efforts are merely an attempt to dam back the stream which still pours out each year from the various asylums in the country its annual flood of blind into the nation.

What has been said thus far relates simply to gonorrhœa from the standpoint of the ophthalmologist. In a paper like this there is no opportunity to treat it from any other standpoint. Each physician sees its ravages from his own point of view. The military surgeon tells us how gonorrhœa incapacitates thousands of soldiers and sailors, and how the support of these men when in hospitals costs this government, as it does the government of every nation, hundreds of thousands or millions of dollars annually.

The gynecologists find that gonorrhœa is by far the most important causative factor in the condition which they treat. They tell us that at least 50 to 75 per cent. or 80 per cent. of the cases requiring abdominal operations are due to this disease, the proportion depending of course on the class of patients under consideration. He tells us also of the large percentage of other women, not subjects for operation, who drag on a miserable existence as a result of this infection. These are only a few of the sources from which the evidence comes concerning the terrible ravages of gonorrhœa. Taken altogether it is fair to say that we should class the ravages of this disease with tuberculosis, and very properly call gonorrhœa, the black plague.

And what has been done thus far to limit the devastations of that plague? Practically nothing except astringent injections and moral injunctions.

A consideration of this subject for some time has convinced me that our efforts are to a great extent futile. What we should do is to strike at the root of the trouble, to dry up if possible the springs from which this annual flood of the blind and suffering comes. The gist of the matter is that we should report gonorrhœa in the same way that we report other contagious diseases.

Little by little we learned to report smallpox, diphtheria, and the other contagious diseases. The crusade against tuberculosis is well under way. Apparently the time is ripe for some effort to restrict or to eradicate gonorrhœa also. Legislation to this end has already been undertaken in Indiana, Vermont, and in California. As for New York State, the Board of Health, with its plenary powers, already has a right at any time to order gonorrhœa, like other contagious diseases, to be reported. But that Board realized that if that were done there would be a great outcry against it—an outcry even greater than that made by the profession when it was decided that tuberculosis should be reported. In other words, the sanitarians appreciate that it is necessary to advance slowly, to educate the profession first, and then the public.

Already the initial steps in this direction has been taken by the Health Commissioner, Dr. Porter. Some time ago cards were printed on which those in charge of state institutions could report every case of gonorrhœa there observed.

Still more recently a circular has been issued by the State Department of Health asking for

data concerning the value of free distribution of silver nitrate, and other facts concerning this class of cases. This is a second step in the right direction. I have been informed that the department hopes to educate thus gradually the medical profession, and incidentally the public, concerning the ravages of this black plague, and then some time in the future the Commissioner will issue an edict that all cases shall be reported just as has been done with regard to tuberculosis. That department is ready and alert to join in any such forward movement. But the Commissioner is only the servant of the state. He cannot inaugurate any single movement as long as the medical profession, or any considerable part of it, stands in the way of progress.

The situation, therefore, briefly stated, is this: There has long existed a widespread disease which in this state alone each year destroys the eyes of a certain number of children and of some adults, costs the state more than a hundred thousand dollars for the support of its blind, and is yielding only slowly, if at all, to the prophylactic efforts thus far made. Moreover this disease necessitates hundreds or even thousands of operations on women. It costs some of these women their lives. It causes other women to become permanent invalids, to say nothing of the pain and loss of time to the men also affected.

In view of these facts can there be any doubt of the truth of this first proposition stated in this paper, namely, that we *should* prevent or at least restrict the spread of gonorrhœa.

The second thesis of this paper is that *it is practicable* to obtain, without delay a very decided restriction of this disease. For when we ask ourselves why physicians are opposed to reporting cases of gonorrhœa we find that the first and most natural objection is that many of these cases occur in virtuous women, mothers of families. None of us would cast on them a breath of suspicion, and it seems to me that any conservative legislation or regulation for the reporting of gonorrhœa must exclude this class—at least until the public has become more enlightened.

In view of this it seems that most of the difficulties in the problem could be disposed of by a special law. And as all that has been said already applies with almost equal force to syphilis, that disease is here included also. The idea in brief is to report all cases occurring in males and also in women already convicted of being dissolute, but not to report cases occurring in other women. The following is a rough draft of such a law—

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section I. Whenever a practitioner of medicine shall advise or treat a man or boy who has either gonorrhœa or syphilis, or a woman who has either of these diseases, and who has previously been convicted of being a street walker or inmate of a disorderly house—the said practitioner of medicine shall, within forty-eight hours thereafter report in writing the full name of the patient, his or her residence, age, occupation and the name of the disease to the health officer of the city, town or county in which the patient resides.

Section II. When such a health officer receives from a practitioner of medicine such a report of such a case of either gonorrhœa or syphilis, the said health officer shall thereupon enter the name, residence, age and the occupation of the patient, with the name of the disease reported in a separate book to be kept for that purpose. Such book shall be open for the inspection of legally qualified physicians in the same manner, and under the same restrictions, as the registry of births and deaths is open for public inspection.

Section III. Failure to comply with the provisions of this act shall be punishable in the same way as at present provided for failure to report a case of tuberculosis. Failure of a health officer to comply with the provisions of this act shall constitute a misdemeanor.

It is impossible, of course, in the few minutes allotted to this paper to show all the reasons for such a measure. Moreover, I would prefer to hear the objections to it.

It is possible, however, to point out very briefly one or two of its advantages. These are: First, the mere agitation of such a measure would be educational in showing why men would be reported, and why good women should be protected. Second, if such a law were passed, the natural aversion of even semi-respectable men to having their names appear in such public records would act as a strong deterrent in saving them and others from disease. Third, such records would be a source of safety to two of the classes of innocent women. These are—

(A) Women contemplating matrimony. The relatives of the intended bride would quite naturally ask the family physician what he thought of the alliance, just as they would ask a lawyer concerning the title of a piece of property in an intended purchase. The physician would then consult these records of the health officer. If he gave an adverse opinion the wedding would be deferred until the prospective groom had time to recover. That might mean one less case of gonorrhœal ophthalmia or possible blindness, or of inherited syphilis.

(B) Women already married would profit by such records. If the husband's name were on such records, the family physician, even though a stranger, could give to that husband wise and friendly counsel—occasionally could save that woman suffering or operation dangerous to life. Or at critical times, perhaps by judicious separating, the pair could save another child from being born with gonorrhœal

ophthalmia, possible blindness or inherited syphilis.

Such a law could hardly fail to lessen to a very decided degree the percentage of children with gonorrhœal ophthalmia, and blindness, and the number of those prone to interstitial keratitis, choroiditis and diseases of the optic nerve. This is a crude and imperfect form of such a law, but it at least serves as a basis for the discussion of something definite. It is not open to the objections of laws which require physicians to report all cases of venereal diseases alike, nor necessitate the publicity which is now given to smallpox and diphtheria, especially, for example, the placarding of houses.

Now let us ask very briefly what would be the objections to such a law, and from what source would the objections come.

First, from those who are most immediately affected by such a law, that is from dissolute men and women, as is quite natural. None of us like to have our foibles exposed. The sufferer from scabies does not like to admit to himself and to others the nature of his malady. That is none the less a reason for curing him, and preventing others from becoming infected. The reasoning seems to be exactly the same.

Second, objections from physicians based on a regard for the patient.

Another class of objections come from the practitioners of medicine, who in all honesty and sincereity believe that the confidence of the consulting room should be held secret. We all agree on that principle, and the American Medical Association properly lays stress upon this in our code of ethics. But the good of the community also demands a modification of that principle. Indeed, that is our rule and daily practice.

Let us suppose that a patient in the consulting room were to make known the fact that he had contracted smallpox, and by some peculiarity in his case the symptoms were not apparent to ordinary observation. Suppose he did not appreciate the importance of the disease, and the practitioner knew that his patient was intending to wait in the next room where he would infect others; would anyone hesitate to warn those innocent patients of their danger, even if thereby secrecy of the consulting room were violated? I can see no reason why the confidences concerning one form of a disease should differ from those concerning another.

The whole question reduces itself to this: Should physicians shield men and dissolute women because of their pride or their wealth or their social position, and by doing so continue to bring diseases of the eyes, suffering and blindness upon thousands, and, in addition, compel innocent law-adiding citizens to pay taxes for the support of hospitals and of blind asylums? This objection does not seem to have a leg to stand on, if viewed only from the standpoint of the ophthalmologist—to say nothing of the reasons which can be advanced by the physician and the surgeon.

Third, objections from physicians based on a regard for his own interests. Fortunately, few physicians would openly avow their hostility to a sanitary measure simply because it affected their own pockets. But our colleagues who have to do with dermatology and its allied branches might naturally complain that if they obey such a law as has been proposed, then their patients would flock to the unprincipled or disreputable practitioner who might pride himself on disregarding such a law and not reporting cases of venereal diseases.

It is interesting to remember that exactly the same objection has been raised each time by other physicians in regard to the reporting of other diseases, but somehow the matter has adjusted itself. The quacks succeeded for awhile, until they felt the hand of the law. Then they went out of business, and patients went back to the well-qualified practitioner. I can see no reason why the same thing should not happen again. Men of education and judgment are sure to be sought out by patients at last if not at first.

Fourth, there are the objectors who do not exactly know why they would object to this law for reporting venereal diseases or to any other. The majority are doctors—some are laymen. If we answer their first objection they have a second. Answer that and they come back to the first—most elusive and exasperating of all, and unfortunately the most numerous.

From the foregoing it would seem that we have established two of the three propositions with which we started, namely that we *should* prevent or at least restrict the spread of gonorrhœa, and

Second, that this *is* practicable and *can* be done.

The third and final thesis is a personal one. It is that such restriction should be accomplished by societies like this. The responsibility for not doing it rests primarily upon us physicians.

This proposition is a corrollary of the two preceding. Or to repeat still again:

First, we acknowledge the existence of all this blindness, needless expense and suffering, even deaths from operations caused by gonorrhœa.

Second, we see that there is at least one way to meet the urgent duty.

The only remaining question is *shall we do it?*

Shall it be said that we, the members of the medical society of the Empire State, simply pose as sanitarians, shall we complacently ask the community to look upon us as guardians of public health, and yet do nothing to solve a great problem like this.

Or, shall we awake to the fact that the responsibility of not checking this black plague rests largely on us, and accordingly make some effort at least to restrict the spread of gonorrhœa?

A CASE OF EPIDURAL HEMORRHAGE COMPLICATING EPILEPSY WITH RUPTURE OF POSTERIOR BRANCH OF THE MIDDLE MENINGEAL ARTERY—RECOVERY.

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IN 1886, Jacobson, in *Guy's Hospital Reports*, presented a very elaborate, systematic and exhaustive study of epidural hemorrhage based upon seventy collected cases which had either come to operation or autopsy. In this report some very interesting and instructive deductions are brought out which are of no less importance at the present time than they were then.

After reading this scientific article, one is impressed by many salient points which may be briefly summarized. In all this great number of cases, no two are alike, no one set of symptoms applies to another; some with extensive lesions and marked symptoms occurred as the outcome of trivial injuries, while others presenting few symptoms and slight injuries were the result of great violence; some presented symptoms so distinct and characteristic as to leave not the slightest doubt regarding diagnosis which was at operation verified, while other cases showed so few characteristic symptoms as to engender doubt and uncertainty relative to proper treatment.

In 26 cases where the vessel was mentioned, the main trunk of the middle meningeal was injured in only two cases, the hemorrhages occurring from some branch of the artery as a rule. The posterior branch was injured twice as frequently as the anterior. In these 70 cases, fracture occurred in 62, and in 38 cases, the base was involved. In 37 of the 70 cases in which the limbs were mentioned, hemiplegia was present in 19, a fact which I wish to bring out particularly, inasmuch as this aspect of epidural hemorrhage has been of late questioned,[1] although the literature is full of many isolated instances of paralysis following extra-dural bleeding and is prominently mentioned by Phelps,[2] Starr[3] and others.

It is for the purpose of adding further proof of the possibility of the occurrence of hemiplegia resulting from extra-dural hemorrhage and because it has so many points in common with those collected by Jacobson, that the following case is chronicled, believing the many points of interest justify it.

J. Z., age 40, was admitted to Bellevue Hospital on November 25, 1910, in the service of Dr. Joseph D. Bryant to whom I am indebted for the privilege of operating upon and reporting the case. He had been subject to epilepsy for the past 17 years. Attacks occurred irregularly. Patient unconscious at these times and never knew when they were coming on. Convulsions general, with no incipient focal manifestations.

On November 24, 1910, 6.30 A. M., during one of these attacks the patient fell, striking his head on a stone walk. After the epileptic attack, the patient was assisted to a chair and after a short rest, he walked up two flights of stairs to his room. He remained in bed all day, and at 10.30 that evening took some broth which he vomited. The next morning, 24 hours after his injury, he was found unconscious in bed and sent to the hospital.

On admission the patient was in a stuporous condition, unable to talk, but opened his eyes when shouted at or shaken. He was very restless and constantly turned his head and moved his right arm and leg and made attempts to grasp those who approached him.

The left arm and leg were paralyzed, pricking and pinching these members producing no response and no attempts to move these were made, although the patient constantly moved the right arm and leg, and these responded to stimulation.

There was no facial paralysis, pupils were normal, no bleeding from ears, nose or mouth. Breathing deep, but not stertorous, 22 to the minute. Pulse 60. Blood pressure 120 on both sides.

There was a large œdematous area over the right parietal region which was very tender, the patient making attempts to move his head away when pressure was made over this. Spinal subarachnoid space tapped and bloody fluid obtained.

Patient was anæsthetized, and an inverted U-shaped flap turned down over the right motor area, hemorrhage being controlled by a rubber bandage around head. A linear fracture of the skull was revealed, running obliquely downward and forward over the right parietal and temporal bones into the base of skull. An opening was made over the motor area close to the fracture with a Hudson drill.

A clot was discovered as soon as a trephine opening was made and enlarged which covered the entire motor area and extended well into the base of the skull. There was no active hemorrhage as long as the clot was undisturbed, but as soon as this was removed, which nearly filled an ordinary drinking glass, an active hemorrhage was seen coming from the lower margin of the wound beneath the bone. A further removal of bone in this direction revealed the hemorrhage coming from a torn artery lying on the dura which corresponded in position and direction of course, to the posterior branch of the middle meningeal. This was controlled by ligature. The dura was intact and was not opened. The

1. Paper by Dr. Otto H. Schultze, entitled "Postmortem Examinations in Relation to the Surgery of Cranial Injury and Simulating Conditions," read before the Surgical Section of the New York Academy of Medicine, April 7, 1911.
2. "Traumatic Injuries of the Brain," Phelps.
3. "Brain Surgery," Storr.

brain was markedly compressed in this region to accommodate the clot and from the gross appearance it seemed impossible that the function of the brain could ever be restored so great was the apparent indentation of the brain. The skin and facia were closed with running catgut after inserting a rubber dam drain which was removed after 48 hours.

The patient made an uninterrupted recovery. On the following day he could move his left arm and leg when requested, but he was mentally dull; memory poor; understood questions put to him, but failed to appreciate his condition or whereabouts. Could not tell his name or address.

On the following day, however, he could tell his name; gave his correct address, and answered other questions intelligently.

He was free from epileptic attacks for three weeks after operation, at the end of which time he had one, similar to the previous attacks, while up about the ward. He had two others before leaving the hospital on December 31, 1910. Since leaving the hospital he has had many attacks at irregular intervals, he often going three weeks without one and then having two or three daily for a few days.

The points in the above case that I wish to emphasize are, that this is a typical clean-cut case of epidural hemorrhage; that paralysis of the left arm and leg were present; that the paralysis could not have been due to a hemorrhage inside the brain substance itself, since all the symptoms disappeared after the clot was removed from the dura; that the attacks of epilepsy were in no manner altered by the operation.

ARTERIOSCLEROSIS AS A FACTOR IN MENTAL DISEASES.*

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THE term arteriosclerosis or arterial sclerosis is often employed somewhat comprehensively as a name for various forms of arterial disease. The term rigidly employed, however, would be limited to the sclerotic changes which develop as the result of a considerable number of factors: syphilis, alcohol and lead poisoning, for instance. Acute arteritis in the cerebral vessels may follow infectious diseases, such as typhoid, scarlet fever, diphtheria, influenza, etc. The periarteritis which accompanies Bright's disease usually involves only the external arterial coat and adjacent connective tissue. Chronic arteritis, atheroma or endarteritis deformens (as the condition is variously designated) originates in the occlusion or inflammation of the nutrient artery and the formation of an atheromatous plaque. It is usually confined to the middle tunic, results in fatty degeneration and is eventually replaced by calcareous deposits.

Arteriosclerosis, also called arterio capillary fibrosis, the condition which we wish to consider more especially, is nearly always a generalized systemic condition, but the changes may be increased in certain bodily organs and thus give rise to local symptom groups.

Definition, from Edwardes' "Practice of Medicine." "A regressive change, evidenced first by malnutrition, in the walls of the small or large vessels, and later by compensatory thickening, either localized or diffused."

Etiology.—Arterial changes of this character are regarded as the essential elements in senile involution, but some individuals attain advanced age without developing such changes. The characteristic changes usually develop after the fiftieth year, but various influences or certain infections, such as syphilis, may develop arterial sclerosis earlier. Occasionally the condition is found in adolescence as the result of acute infectious diseases. Eighty per cent. of the cases occur in men on account of the greater number of exciting causes; in women the condition is apt to appear about a decade later than in men, although factory workers are likely to develop the condition earlier. Among the specific infections syphilis is a cause in 33 per cent., tuberculosis, nephritis, rheumatism, gout and diabetes are frequent causes. Among the toxic agents alcohol is a prolific cause (25 per cent.) coffee and tea are considered important factors; excessive physical toil and hard conditions of life generally are evidently conducive to arteriosclerosis. In brief, all infectious and toxic agencies have a marked influence, and hard work and privations cause arterial degeneration in some cases.

Pathology.—According to a report on a series of cases studied by Dr. Charles I. Lambert, the average brain weight is apt to be diminished, the pia mater may be hazy and somewhat thickened. The convolutions narrowed and the sulci correspondingly widened, the ventricles somewhat dilated. The large and small arteries are frequently studded with numerous areas of degeneration. The cortex is usually intact. The basal nuclei and the brain stem are more affected. Occasionally foci are scattered through these regions in mild cases. In more severe cases various miliary foci are met, particularly in the lenticular nucleus, optic thalamus, internal capsule, mid-brain and pons. The medullary substance is likely to be considerably decreased when there is marked arteriosclerosis in the larger arteries. The microscopical changes are slight in the cortex. In the deeper structures of the brain there are various microscopic alterations peculiar to softening.

Symptoms.—Fortunately not all cases who have developed arterial changes show serious mental difficulties. Most patients, however, are subject to a greater or less degree to headaches, vertigo, sensations of fatigue, both mental and physical, various neuralgias, some-

* Read before the Seventh District Branch of the Medical Society of the State of New York, at Geneva, September 15, 1910.

times attacks of migrane; some have subjective impressions of loss of memory, but close examination may not reveal any very serious memory defect. Sometimes a definite memory defect, particularly for figures and names may be demonstrated. The subjective sense of difficulty in recalling past events is very often present; insomnia and restlessness at night are apt to be troublesome features. When the diseased conditions become more severe there is apt to be greater complaint of headaches, of giddiness and attacks of vertigo in various positions; failing memory, periods of transitory confusion and a state of physical and mental exhaustion will be more prominently complained of. There are apt to be very pronounced alternations in mood, the patients are often irritable, obstinate and abusive; frequently they exhibit a tendency to weep or laugh with little provocation. Restlessness, inability to sleep and unnecessary activity are often noted; depression, apathy, and a tendency to become indifferent are frequently observed. Exhilarated moods are of comparatively rare occurrence. Transitory aphasia or hemiplegia may be explained on the basis of transient ischæmia. Epileptic seizures and the Stokes-Adams syndrome—tachycardia, pseudo-epileptic seizures and Cheyne-Stokes respiration—have been observed in cases where autopsy revealed definite changes in the cerebral arteries. Delusional states and hallucinations occur frequently with excited or agitated conditions.

The comparatively mild cases of mental disturbances due to cerebral arteriosclerosis are rarely seen in hospitals for the insane. In most of the cases admitted, the arterial changes are considerably advanced; consequently there will be little difficulty in locating the cause of the trouble.

In a large proportion of cases of involution melancholia (which develops in women about the climacteric period, and in men usually at a somewhat more advanced age), the patients are subject to arterial changes which lend symptoms and conditions to complicate the disorder. A still larger percentage of senile cases show arterial disease in more advanced form, with resulting physical and mental disorders.

In the melancholia group, a considerable number of the early cases show slight or moderate changes in the arteries. In the later, or the more severe cases, a larger percentage reveal arteriosclerosis. The more severe cases often show what is called the anxiety psychosis, which appears to depend so much upon the arterial changes. Anxiety, restlessness, fear, exceedingly severe despondency, pronounced insomnia, and somatic delusions are prominent symptoms.

An examination of the statistics of admission in three hospitals in this state for one year gives the following results: In cases of involution melancholia, arteriosclerosis was assigned as a prominent etiological factor in 20 per cent. of the cases (25 per cent. in men and 15 per cent. in women). In the cases of senile insanity reported during the corresponding period, arteriosclerosis was given as one of the definite etiological factors in 36 per cent. of cases (40 per cent. in men and 32 per cent. in women). The proportion of both involution and senile cases showing actual degenerative changes in the arteries is evidently considerably larger. An examination of the records of a considerable number of cases, admitted during the past eight years indicates that about 40 per cent. of the cases of involution melancholia and 70 per cent. of the senile cases had definite evidences of general arteriosclerosis. Patients who show marked symptoms of cerebral arteriosclerosis, without corresponding changes in the radials, temporals or other accessible arteries, probably have developed more advanced arteriosclerosis in the cerebral vessels. Autopsies and the subsequent neurological examinations have shown arteriosclerosis and degenerative changes in the cortex and the deeper structures of the brain, in a large proportion of cases of the involution psychosis, and in the greater number of cases of the senile psychoses.

The following three cases will serve to illustrate various phases of involution melancholia, which, although presenting some unfavorable symptoms, were of comparatively mild type, and showed a decided tendency to improvement or recovery, under changed conditions, with appropriate treatment.

Involution.

E. A.—Female, aged 54. Moderately advanced arteriosclerosis, chronic choroiditis in left eye, somatic ideas, insomnia. First attack at 47, following the climacteric, with despondency, agitation, emotional distress, confusion, delusions of impending danger, that she would be punished. Recovered in about a year and remained well about five years. Then became melancholy and the attack was accentuated following influenza, when she developed greater despondency, marked agitation and emotional distress, confusion, delusions of wrong doing, of being doomed to eternal punishment, of having ruined her husband's prospects in life. Imagined her throat was paralyzed, that she could not swallow, that she was becoming blind. Partial insight, defective judgment; prognosis fair but less favorable on account of somatic ideas. Had visual hallucinations at times. She improved three months after admission, and recovered in about a year after the beginning of the attack.

A. E. C.—Female, aged 57 years. Paternal grandmother was insane, and starved because she could not be induced to swallow, on

account of delusions of poison. Several members of the family died of cerebral apoplexy. Patient developed melancholia shortly after the climacteric when about fifty years old, while nursing relatives, but she recovered. The present attack developed at 55, following physical exhaustion due to nursing husband and other invalids in the family. Marked depression, emotional distress, agitation, incipient delusions of suspicion, somatic ideas. Aural hallucinations, accusing her of wickedness, urging her to suicide, visual illusions of change in the features and forms of people about her, marked restless insomnia. Physically—severe vertigo, headaches and clavus, persistent cutaneous parasthesias, nephritis and moderately advanced arterial sclerosis. Very fair insight but her attitude was one of despair. Had vivid aural hallucinations which originated in frontal region of brain and she was taunted by them. "They threaten to drive me to desperation; they taunt me to tear myself to pieces. They are so distinct and tormenting, I am afraid I cannot resist the temptation to do something desperate." Began to improve about three months after admission and subsequently recovered.

G. W. H., age 62 years. A farmer who was temperate, healthy, a hard worker and fairly prosperous, but of nervous, gloomy disposition. Began to fail physically at age of 60, had insomnia, loss of appetite, constipation, became more despondent. Intended to drown himself, but lacked courage. Thought he was becoming poverty stricken, and refused food. A case of marked despondency, anxiety, with delusions of poverty, that he was suspected of stealing and other crimes. Somewhat confused, with marked feeling of inadequacy and hopelessness, and subjective impression of failing memory, incompetent mental state generally; wished to die. Physically—had some vertigo, frequently staggered and became blind temporarily. Sense of smell defective, weakness of facial muscles on right side, weakness of arm and leg muscles on right, mitral systolic murmur with hypertrophied left heart, slight nephritis. Arteries showed moderately advanced arteriosclerosis. Patient improved physically and mentally, but remained somewhat hypochondriacal, with various somatic ideas, when discharged about a year afterward. Believed his intestines were diseased, that he was infested with pediculi. Dizziness and staggering, and attacks of blindness had disappeared.

This case illustrates a chronic form of melancholia, which has now existed several years, and the patient has become considerably deteriorated mentally.

J. P. H., age 61 years. Had diphtheria and typhoid fever when young. Was a successful merchant and accumulated a fair amount of property. About 58, following fire losses and litigation with insurance companies he became nervous, irritable, had insomnia, believed he had caused the fire, that he had stolen money. Six months later he was taken to a private hospital, remained three or four months, and was discharged improved. A month later his anxiety psychosis again became prominent, with marked agitation, insomnia, delusions of gross immorality, of having committed many crimes, etc. At the hospital he was very restless, talkative, and self-accusative, expressed many delusions of reference, accusing himself of having stolen, cheated and defrauded nearly all the people he had dealt with. Not deteriorated mentally to any great degree, but had no insight. Moderate arteriosclerosis was present. This patient has remained in a state of agitated melancholia, very restless, anxious, talking incessantly to himself and to others, about his miseries in regard to his wickedness, etc., often following people about and expostulating with them because they do not accept his delusions and morbid explanations.

This case of senile psychosis presented characteristic symptoms.

M. E., female, age 69 years. A brother was insane and a sister died of cerebral hemorrhage. Patient of ordinary intelligence and exemplary habits. After the menopause developed convulsive seizures, epileptic in character, which have continued at infrequent intervals. Had gastric ulcer and hemorrhages when 57 years old. Complained much of headaches and dizziness at that time and subsequently. Became mentally unbalanced at age of 64 when she developed ideas of suspicion, was faultfinding and irascible, thought people derided her, and consequently she became seclusive. Four months before admission she became dull, melancholy, more incapable, then was agitated, thought evil spirits pursued her, that her sister was planning to dispose of her. Had frequent severe attacks of emotional distress, going about wringing her hands and weeping. Had marked insomnia and blundered about the house at night. During the day she wandered about aimlessly and would get lost. At the hospital showed marked confusion, agitation, anxiety and considerable depression. Had motor aphasia, and was very much disoriented. She could respond to simple requests and commands, but became confused and helpless quickly. Physically there was marked emaciation, anæmia, arteries showed advanced arteriosclerosis. Subsequently, when examined, was either agitated, confused or in a semi-stuporous condition. She settled into a more feeble, indifferent state from which she would arouse occasionally. About five months after admission, developed cerebral hemorrhage and died ten days later.

This sketch given below illustrates a case with

no marked deterioration, but presenting an unusual psychasthenic state.

J. B. T., female, age 68 years. At the age of 66 years had an illness believed to result from a slight "shock," but there was no resulting paralysis. In December of the same year she had an attack when she fell from a chair in which she was sitting, and was partially unconscious several hours. Subsequently she complained of a queer feeling in her head, and slight numbness in various areas. Became agitated, depressed, whimsical, and was taken to a hospital where she remained six months, when she was discharged to the care of her daughter. She remained nervous and despondent, developed fears and ideas of unworthiness. After three months at home came to Willard as a patient. Was quiet and appreciative and fairly intelligent, well oriented. Was afraid to be left alone, could not be induced to sleep alone, had insomnia, thought she would be impelled to injure other people if allowed weapons. Auditory hallucinations in the form of impressions, or thoughts tormented her, accusing her of crimes, and telling her: "You are wicked old woman. You do not deserve to live. You should be punished." Patient believed these wicked thoughts were promulgated against her by Satan, because she had lost faith in God. When questioned about her past life, and in regard to remote events, she wailed: "Oh dear, if God had only taken me then!" There was little failure of memory, and her intellectual grasp was very fair, and she had fair insight regarding her psychasthenic difficulties, but could not rid herself of the obsessions. She has been subject to headaches, located in temporal regions and described as pressure headaches. When startled or particularly nervous has marked giddiness. Annoyed by sensation of water trickling over body, a sensation of a tight band around the chest, just underneath the arms, and another lower down, about the sixth and seventh ribs. Deep reflexes sub-normal. Pulse increased in rapidity, irregular; blood pressure increased, moderate thickening in radial, ulner and brachial as well as temporal arteries. Improved four months after admission; fears less prominent. Would not go about alone, but walked out accompanied by some one in whom she had confidence. Ten months after admission recognized the absurdity of her fears and whimsical ideas, was quite rational and capable. Went home, but soon became feeble and was returned to the hospital after four weeks. As a result of chronic myocarditis, heart became dilated, and she had marked dyspnœa and cyanosis. Developed lobar pneumonia which caused her death a few days later. Autopsy showed extensive sclerotic changes in carotids and cerebral vessels.

Prognosis.—Frequently the condition does not result in mental symptoms until extensive sclerosis has developed; consequently the prospects for cure in such cases are not favorable.

Cases showing a comparatively slight degree of sclerosis may be benefited by treatment, or may remain stationary for a long period. Even in advanced cases, remissions sometimes occur, with marked improvement mentally, but recurrence of the physical and mental symptoms is apt to be more severe each time, especially following the apoplectiform or occasional epileptiform attacks. After degenerative changes have developed in the arteries, there will always be danger of critical developments, such as apoplexy, paralysis of the cardiac muscular structure, angina pectoris "heart block" or uræmia.

Treatment.—While early cases can be arrested by strict treatment and management, in the advanced cases only moderate improvement can be expected.

For manageable cases, a quiet, regulated life in the open air of the country, with appropriate diet, exercise and attention to bodily functions, will prove beneficial. Food may be given at frequent intervals and in correspondingly reduced quantities to avoid overtaxing the digestive tract by full meals. A milk diet will prove beneficial in some cases.

In the therapeutic treatment, due attention should be given to recognized remedies in cases of syphilitic, rheumatic, diabetic or gouty origin. Cases due to nephritis and cardiac diseases should also receive special treatment. Marked improvement will sometimes result from prolonged administration of the iodides. Potassium iodide is frequently given, but sodium iodide is preferable where the former causes gastric irritation. Sodium iodide may be given in doses of from gr. II to XV t.i.d. Continued twenty days, when nitroglycerin gr. 1-100 may be substituted for ten days. Amyl nitrate or trinitrin are remedies which may be used cautiously in place of nitroglycerin at times. Tonics of various kinds are usually required and give beneficial results.

Cathartics, especially calomel and magnesium sulphate are very useful in clearing the intestinal tract. Alkalin mineral waters very useful at times.

Insomnia may be controlled in mild cases by warm baths or packs, and hot drinks. Trional, sulfonal and the bromides are effectual in other cases. The more severely disturbed cases will require more positive hypnotics, such as chloral in moderate doses, at times. Severe cases, who have marked psychic symptoms, can often be cared for in hospitals to advantage. When such cases can be induced to remain in bed, the rest treatment will be found beneficial, appropriate massage taking the place of exercise.

EXCLUSION OF ULCERATED AREAS IN THE PYLORIC REGION.

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ULCERS of the duodenum and of the pyloric portion of the stomach differ in their potentiality as regards carcinomatous development; in the former carcinoma is rare, in the latter it is frequent. In a certain proportion of cases the stomach ulcer is an extension of the duodenal ulcer.

Since malignant changes are quite infrequent in ulcer of the duodenum, it would seem that operative procedures of slight risk should be preferable if a curative result can be so achieved.

Such operative procedures are the more to be desired for the additional reasons:

1. The etiology of ulcer of the duodenum is unknown. We only know that a certain portion of the gastro-intestinal tract, the duodenum and more particularly its upper third, is liable to ulceration.

2. The symptoms have a certain relation to the passage of stomach contents over the ulcerated area.

A consideration of these two facts leads to the logical conclusion that an operative cure to be radical would include resection of that portion of the duodenum liable to ulceration and the substitution for it of another portion of the small intestine. Of course the subject is much more complex, but for the practical purpose of this communication these two factors are sufficient. That hypersecretion of the stomach plays an important part there can be no question. Experimentally ulcers have been produced in dogs by causing a marked hypersecretion through injecting gastric juice into the blood stream. Ulceration of the gastric mucosa has also been produced by feeding animals large amounts of colon bacilli.

Should resection be followed by direct end to end union of the stomach and duodenum, however, the condition would be only so far changed as to substitute a different segment of duodenum and an area also at times liable to ulceration, for the original segment. Moreover the resection of the necessary amount of duodenum is fraught with considerable technical difficulty. Resection with end closure and posterior gastro-enterostomy is more ideal so far as changing the condition favoring ulcer formation is concerned but is open to the same objection of the technical difficulty of resection of the duodenum.

We are then confronted by the problem how to substitute a portion of the intestines for that liable to ulceration and how to change the condition playing some role at least in the formation of these ulcers, in a manner not technically difficult. Moynihan has solved the problem in many cases by posterior gastro-enterostomy with infolding of the ulcer, the former providing a new channel for the food stream while the latter strengthens the ulcerated portion of the duodenum and by also narrowing its lumen tends to ensure the passage of food along the new channel. Safe as the procedure has been made by the addition of the no-loop method of Mayo which has freed gastro-enterostomy from the dangers formerly inherent to it, the second part of the procedure (infolding of the ulcer) is limited to those cases in which induration is not so extensive as to render infolding impossible by reason of the tearing out of the stitches. We therefore must devise some procedure to take the place of infolding in those cases in which infolding is impossible, or since infolding does not entirely fulfill the indication of securing absolute freedom of the ulcerated area from irritation from gastric contents we should consider some method which will fulfill this indication safely and efficiently.

The procedure which logically comes to mind is the closure of the stomach from the duodenum in such a manner as to render impossible the passage of any gastric contents over the ulcerated area. This can be accomplished with reasonable certainty in the first method about to be described, and with absolute certainty in the second. The first method consists in infolding the pyloric portion of the stomach proximal to the ulcer. I have done this in a case which is herewith reported. The second method consists in section of the stomach from the duodenum and closure of both cut ends without resection. This I have not as yet performed but present simply for consideration. The former is a simple procedure and would seem to fulfill all the indications while the latter though certainly fulfilling the indications would also materially add to the risk of the operation.

In a recent case of ulcer at the pyloric opening of the stomach and involving the upper two-thirds of the duodenum the following procedure was practiced. Posterior gastro-enterostomy was first done; then the portion of the duodenum bearing the ulcer was infolded; following this two mattress sutures were introduced above on the stomach side of the ulcer and the anterior wall of the stomach infolded at this point in such a manner as to very materially lessen the calibre of that portion of the stomach. The idea being to protect the ulcerated area at the pylorus from food irritation for the location and extent of the ulcer as the patency of the pylorus was such that with all reasonable certainty gastro-enterostomy alone would not have been efficient in diverting the food stream from the ulcer-bearing area. The procedure was employed in the following case:

W. W., male, aged 39, referred by Dr. Jacob Wachsman, June 7, 1911, complaining of dull pain in the epigastric region which radiated to the left side of the back. Ten years before he

was seized with a sharp stabbing pain in the epigastrium quickly relieved by vomiting. The vomitus consisted of undigested food. Since this attack the patient has been similarly seized about every other week, sometimes oftener. Between the attacks he complained of a vague feeling of weight in the epigastric region. This was always relieved by vomiting. The pain was more constant than the vomiting and came on usually one to one and one-half hours after eating, was moderate in severity and radiated to the left side of the back. Previous history, scarlet fever in childhood, typhoid fever about twelve years ago. Constipation has been a marked feature of his present illness. Examination showed a well nourished man; abdominal examination was negative except for tenderness about the region of the gall bladder and duodenum. A diagnosis of ulcer in the region of the pylorus with possible cholecystitis was made. Operation disclosed an ulcer encircling the upper two-thirds of the duodenum for two-thirds of its circumference and extending above the pyloric vein. Posterior gastro-enterostomy with no loop was done. The appendix was found somewhat thickened and was removed. A further examination of the pylorus showed that it was too patent and so held by the thickening, the result of the ulceration, that it was like a rigid tube. The ulcer was infolded with four mattress sutures and two mattress sutures were placed above it in the pyloric portion of the stomach infolding the portion of the stomach just above the pyloric vein in such a manner as to narrow its lumen as much as possible thus precluding the possibility of gastric secretion getting at the ulcerated area.

The patient made an uneventful recovery and left the hospital on the twelfth day following the operation. There was an immediate subsidence of pain and distress, nor have there been untoward symptoms of any kind.

THE WASSERMANN REACTION AND THE PHYSICIAN.*

By WALTER JAMES HEIMANN, M.D.,
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IN the course of over a year during which I have been performing the Wassermann test for colleagues in New York it has frequently been brought home to me through their interrogations that certain points in the clinical aspects of the question need elucidation so that the procedure may be as valuable and clear to them in syphilis as the Widal reaction has become in typhoid fever. It has invariably been a fact in the history of medicine that a new idea has been received with exaggerated fervor, and then as its limitations develop, has been discarded with exaggerated disdain. Neither extreme should be the lot of the Wassermann reaction. The Utopia of scientific medicine would be a realm in which every physician were as expert in the laboratory as at the bedside or in the clinic. To those who frequently need the aid of the Wassermann test but have never had an opportunity to study it, this paper is directed.

Another description of the technique shall be spared a wearied medical public. I should merely like to state that I prefer the method at present followed by Wassermann and Citron[1]. Without discussing various modifications and short-cuts, in themselves excellent, already suggested at home and abroad, I have found that no method is, on the whole, more satisfactory than the first one advocated. Unless a change in technique offers either a great saving in time, material simplification or greater accuracy in results, it presents no cause to be preferred to its prototype. Accordingly, I have, after essaying many by-paths, come back to my starting point, the Wassermann test as at present accepted by Wassermann himself.

At the outset it is my desire clearly to state that the Wassermann reaction is not to be regarded as the one all-important sign of syphilis, but rather as a weighty factor among several others in its symptomatology. On the other hand it does not deserve the somewhat unjust pessimism with which Kaplan[2] has viewed it in a recent paper.

Unfortunately enough, it is most frequently positive when it is clinically least necessary, namely, in the recognition of cutaneous syphilis. All told, in all stages of the diseases it is positive in at least 85 per cent. of the cases.

Probably 95 out of every 100 syphilides can be diagnosticated by ordinary clinical methods. The primary lesion can be more readily recognized by finding the spirochete than by the serum test; the average secondary or tertiary lesion presents no difficulties to the trained eye. But we have passed the experimental stage of the test. We have our statistics. We do not require a Wassermann where we are positive of our clinical diagnosis. Where we are uncertain, however, and our doubts are removed by serum diagnosis, we are much better off than in the pre-Wassermann days, and if the test should fail us, we are no worse off for having invoked its aid than we were before the time we had it at our disposal.

Should confusion be caused under such circumstances, I dare say the fault lies rather with the physicians who expected of the Wassermann a new Daniel come to the syphilitic judgment than with the test, for as has been stated, the Wassermann reaction is but one phenomenon of lues, not the entire disease. Should a lesion resembling a syphilide strongly enough to suggest the necessity of the test

*Read before the New York Society for Clinical Serology, November, 1910.

give a negative reaction, we may still be dealing with syphilis. We must not let our clinical vision be dulled. We must consider the history, the aspect of the patient, perhaps make histological studies, apply the therapeutic test, which, when done judiciously, is not without value. In other words we must view all phases of the disease proportionately and not expose ourselves to disappointment and, what is more serious, to errors by laying too much stress upon but one element in diagnosis.

In latent syphilis the reaction, according to both Isabolinsky[3] and Bruck[4], is positive in but 50 per cent. of the cases, but here again we may be grateful that so many can be cleared up for the problem they present is intricate and it is a great boon to have recourse to something which can so often aid us. In seven of my cases lacking all stigmata of lues except positive histories the reaction was positive. We were dealing with late latency and as a result of the test it was possible to recognize all as still luetic. In former times we would have floundered in a sea of doubt.

In congenital lues our knowledge on the whole is sparse. Knoepfelmacher and Lehndorf[5] examined 33 patients at all ages and obtained about 82 per cent. of positive results in cases clinically luetic; in non-luetic cases all were negative. They state, however, no reaction becomes positive until the rash has appeared. The results and deductions in this type of the disease appear to be parallel to those in the acquired type.

The later manifestations of lues, such as syphilis cerebri, tabes, and paresis, have been subjected to exhaustive study by many investigators. For instance, A. Marie[6] obtained positive results from the cerebro-spinal fluid, negative from the blood. In recent cases he obtained the reverse. Raviart[7] found 67 reactions positive in 72 cases of paresis. Saathof[8] found 14 positive results in as many cases of paresis, and 34 in 36 of tabes. Thus the luetic nature of these diseases can be recognized almost to a certainty by means of the Wassermann test. I usually have been told the clinical data of but few of the sera I examined, but in six known to me to be from cases of tabes, five were positive. Kaplan[2] divides this disease into two groups, those giving positive and those giving negative results, considering the former syphilis, the latter not. This is singularly didactic for one who approaches the entire subject with so great reserve, not to say skepticism. To me the matter seems less complex. We merely are dealing with the fact that in most of these cases, through some immediate or more remote relation to syphilis, the Wassermann reaction is positive and where the reaction is negative the symptoms being otherwise clear, we have no good grounds to rule out syphilis. There is no more reason to doubt that tabes is luetic for instance because the Wassermann is negative, than there would be to doubt that a characteristic gummatous ulcer is luetic because the Wassermann might be negative.

In visceral syphilis and syphilis of the bones and joints the test appears to have almost the same value as elsewhere. Saathof[8] in Friedrich Mueller's clinic in Munich is enthusiastic in its praise. He has found it of service in aneurism, angina pectoris, nephritis and hepatic diseases. In all of his cases autopsies confirmed the results. He mentions one liver case where a weak Wassermann threw out the diagnosis of syphilis, but where a hepatic gumma was found post-mortem. Unquestionably in internal diagnosis a positive Wassermann is invaluable, a negative test, however, remains inconclusive.

Aside from which this reaction has been assailed most vigorously is from that of its non-specificity. Diseases other than syphilis are known to give positive results. They are notably lepra (Wechselbaum[9]), scarlatina (Bruck and Cohn[10]), lupus vulgaris and psoriasis (Kreibich[11]) and frambœsia. Hauch[12] has recently found it positive in a case of acute lupus erythematodes. These statements are of biological rather than of practical interest. The fact that two vegetable poisons may act similarly causes no astonishment, but we are overcome at hearing that two diseases can elaborate similar toxins and cause similar body reactions. I repeat that the non-specificity of the test is theoretical rather than practical in its bearing. I question whether any of these diseases can present serious diagnostic difficulties. I am not convinced, furthermore, that in the cases reported, the patient may not have had lues, but granting that they had not, why should we cringe before shadows of our own making? Lepra is easy to recognize pathologically by smears from the nodules containing the Hansen organism. Moreover, of four lepra cases I examined serologically only two were positive, one negative and in one the serum itself was inhibitory. That frambœsia should give positive results is of no consequence. To emphasize my point I need only inquire how many of even the oldest New York physicians have been confronted by the problem of differentiating between this disease and syphilis; also how often have we had the task of deciding whether a scarlet might not be in truth syphilis? I personally have not yet seen one which gave a positive Wassermann. One of his assistants told me that in Bayet's clinic in Brussels, when a scarlet was positive it was so only during the fist ten days of the disease. I believe that the other conditions mentioned may be summarily dismissed.

Scleroderma has also very often been found positive. The only two cases that I have had the fortune to examine were not. Had they

been, I should have concluded that the patients had or had had lues and not that the scleroderma is of luetic origin. We might as reasonably consider a clavus in an individual with a positive Wassermann a syphilide. The entire matter represents to me an expression of academic purism very good in its place, but in practical medicine simply serving to confuse an otherwise clear concept.

Having now outlined the main clinical facts connected with the reaction, let us turn to their interpretation. With the exception of the few instances tabulated above, a positive Wassermann reaction invariably indicates syphilis; a negative one does not exclude it. Not all reactions considered positive give complete inhibition. The interpretation of border-line results is a problem of great delicacy. It seems safer to consider a doubtful reaction as negative so far as the patient's happiness and welfare are concerned.

I[13] endeavored to simplify this question by mathematically reading the results in terms of a comparison of surviving erythrocytes with their original bulk. There was no attempt in my effort to estimate the antibody content of the serum. I desired only to replace the hieroglyphics and adjectives by figures. It is natural for the physician to ask how strong a given reaction is. He is, on the whole, the only person responsible for his training, intelligence and ability to grasp a problem and is entitled to be told. It is not for us to inform him that we regretfully consider him too untrained to be taken into our confidence, and that we are willing merely to report the test as positive or negative. He may wish to interpret the result in his own way. After all, that relieves the serologist of a great responsibility. We may suggest to the physican our interpretations and views, but when he chooses one of us to perform the test for him we are not *ipso facto* appointed as an advisory committee to formulate his conclusions. I believe that any other point of view is, at the very least, gratuitous.

Given a negative reaction, when is it significant and when not? When the case is clinically lues a negative reaction stands for nothing. When some vague internal or some skin lesion difficult to recognize confronts us, a negative reaction is of only circumstantial help. Our greater clinical acumen must be brought into play and the problem must be solved along other lines. When a case once positive serologically becomes negative, other signs persisting, we must still regard the case as lues. When the case becomes negative and other signs disappear, the disease is in abeyance or cured, subject to further clinical and serological observation. When the patient has had lues of old standing and is otherwise well, a negative Wassermann is further evidence of his good health.

A positive Wassermann practically always indicates syphilis. Kaplan[2] tells of a brain tumor case which gave a positive reaction; the tumor was found to be a glio-sarcoma. The cause of the positive Wassermann was a gumma of the liver. This is unfortunate but such a possibility must always be borne in mind. The test denotes a pathological condition. It is no compass, however, and cannot be expected to point out the site of this process. I believe that this very fact shows how little significance the reaction is in scleroderma, for instance. If over and above the result of the reaction, the other components of the picture of the disease be accorded their true values, errors will be reduced to a minimum. They will not be entirely eradicated until medicine becomes as exact as mathematics.

In therapy, when we see the reaction diminishing progressively with the waning of the disease, we have a clue to our further indications. Fresh cases should, in our present limited knowledge of the subject, be treated for three or four years as heretofore, despite a negative result. I am not in favor, however, of treating a fresh case longer than this, even though the test remains positive, unless there is other evidence of obstinacy in the disease. In general we should treat a case until the Wassermann becomes negative and is found so at least three times consecutively at six-month intervals. An old case with a positive Wassermann should be treated until it becomes negative and remains so.* An old case with signs of lues and a negative Wassermann should also receive most rigid treatment. Jadassohn[14] and Willy Fischer[15] regard the test as of little use in therapy. Citron,[16] Blaschko,[17] Jesionek[18] and Purkauer[19] take the other point of view. The latter group is, according to my opinion, in the right. I consider it wise to conclude a given series of injections when the reaction becomes negative or after twenty injections of mercury salicylate or its equivalent, even if the reaction remains positive.

The relation of the Wassermann to prognosis is a most difficult one to analyze. A frank syphilis not malignant with a negative or weak reaction probably is mild. A malignant lues with a negative reaction is probably very severe. When, under treatment, we see a Wassermann diminishing we are presumably justified in optimism, and a similar point of view perhaps holds in regard to a late lues with a weak or negative reaction. More than this we cannot say as the generation of luetics upon whom the test has been done is still relatively young.

*I make these last two statements reservedly, for possibly a Wassermann can persist after a lues is cured, as the widal sometimes does after typhoid.

From what has gone before I think it apparent that I regard the Wassermann reaction with some enthusiasm when it is given its logical position in syphilis diagnosis. In prognosis and therapy it is not without great value. None will deny the danger of exaggerating the laboratory at the bedside. When a case is clearly this or that we know all that is necessary in the interests of practical medicine; we do not need the laboratory. The trend of the age is toward finding one pathognomonic feature of a malady. Leukemia tends to become a given blood picture; typhoid, a positive Widal; malaria, a plasmodium; tuberculosis, a positive tuberculin or von Pirquet test. The inevitable outcome of this would be the last solemn rites of sound clinical sense. If we are to make syphilis merely a positive Wassermann reaction, I agree with a recent writer that the test is overrated. But if the test is to be given its due place in the syphilis symptom-complex, and whether positive or negative is valued calmly and logically with the other elements of the clinical status, it will hold its just place as a laboratory procedure of enormous clinical worth.

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ANCHORING THE CAPUT COLI.

By RUSSELL S. FOWLER, M.D.,
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THE condition of prolapsus ceci is extremely common. In the majority of cases it is not accompanied by symptoms but in a certain proportion of cases symptoms similar to chronic appendicitis with associated constipation are present.

In such cases in addition to appendectomy anchoring of the caput coli in its normal position is indicated. To accomplish this easily and with a fair degree of certainty the following procedure has been devised and carried out in three cases. Undoubtedly this or a similar procedure from its very simplicity has suggested itself to other operators though I have not found the procedure described. Wilms (*Zentralblatt für Chirurgie,* 1908, No. 37) devised an ingenious method of suspension of the caput which, however, is open to the objection that it fixes the lowermost part of the caput which normally nature has left free.

Briefly the steps of the procedure are as follows: Following appendectomy the caput coli is laid on a laparotomy sponge to the median side of the incision. This puts the meso-colon on the stretch and allows one to identify the reflection of the parietal peritoneum on to the meso-colon. This reflection is nicked with the scissors and the incision extended downward parallel with the cecum as far as the brim of the true pelvis and upward for four or five inches. The peritoneum is stripped away from the meso-colon and from the postero-lateral wall of the false pelvis. Clamps are placed on the edge of this peritoneal flap to mark where the sutures are to be placed. There is a large raw surface left inside the pocket of the peritoneum thus formed in the right iliac fossa at the normal site of the caput coli. Into this pocket is placed the caput and there secured by catgut sewing the edge of the peritoneal flap to the middle white line of the caput. The lowest suture is placed about one inch above the site of the base of the appendix so as to leave the lower portion of the caput free just above the brim of the true pelvis. Two other sutures are placed above at intervals of one inch. Thus the caput is securely fastened into a large pocket, the lining of which must rapidly become adherent to the peritoneal covering of the intestine. To accomplish the entire procedure takes less time than has been taken in describing it. The primary result is firm fixation of the caput in its normal position.

BURNS.*

By CHARLES HAASE, M.D.,
ELMIRA, N. Y.

BURNS are produced by flames, hot gases, liquids, or solids, electricity, rays and chemicals. They are for the convenience of describing them divided according to their severity into three forms of dermatitis.

1. Dermatitis erythematosa is produced by a temperature of 120 degrees F. In this form there is dilatation of the local capillaries and an exudation of serum, with all the evidences of an acute inflammation.

2. Dermatitis bullosa is produced when the temperature rises to 144 degrees F. In this form the epidermis is raised and blebs are formed.

3. Dermatitis escharotica is produced by a temperature of 212 degrees F. In this form there is a complete destruction of the skin followed by gangrene and scar formation.

The local symptoms are those of an acute inflammation with pain heading the list. In severe cases the patient suffers from shock, the most of which may be psychic; great thirst; rise of temperature; rapid and weak heart action; singultus; auto-intoxication; vomiting; diarrhea, which may be bloody; often casts, albumen, and blood in the urine; and delirium. Labored breathing, stupor, and coma soon follow in fatal cases.

The most dangerous complications are pneumonia, pleurisy, pericarditis, meningitis, cerebritis, peritonitis, duodenitis, gastric ulcer, intussusception, septic infection, hemorrhage from ulceration, and cicatrices.

The following theories have been advanced to explain the lethal action of burns:

1. Shock or excessive irritation of the nervous system.
2. Destruction of the red blood corpuscles.
3. Overheating of the blood.
4. Thrombi and emboli forming.
5. Loss of heat—the heart overworks trying to keep up the body heat.
6. Intoxication theory—the poison being formed in the burned tissue.

The intoxication theory seems to be the most feasible, as it has been proven that an extract expressed from burned or scalded skin when injected into animals would cause their death in the same manner as from burns. It was proven that when a certain sized piece of this skin was placed into an animal's abdominal cavity it would not kill the animal; but that if a piece of the same size were divided and these small pieces scattered into the animal's abdominal cavity it would die. This last method allowed a rapid absorption of the poison. After allowing running water to continually wash over these pieces of burned skin and then introducing them into the animal's body, there were no signs of poisoning, showing that the poison is soluble and that it can be washed away. This shows that wet dressings should not be used on extensive burns, as they dissolve the toxins and allow them to be readily absorbed.

In the treatment of burns we should remember that the areas are usually sterile, caused by the heat which produced them; and if infection be not added by unclean handling much will be done towards hastening the patient's recovery.

For small burns any simple dressing, as sterile vaseline, will exclude the air and relieve the pain. Pure alcohol if applied immediately to small superficial burns acts similar to a chemical antidote. It pains for a few minutes, but will often bring the skin to a nearly normal condition. Blebs should be drained at their most dependent borders and the epidermis preserved.

For extensive burns morphine is the standby to relieve pain and shock. Shock is relieved with aromatic spirits of ammonia, camphorated oil, coffee, saline infusion, strychnine, and strophanthus. Hot water bottles and blankets to restore peripheral temperature and allay internal congestion. Cathartics, diuretics, water, and salt solution to excrete toxins. Extensive burns should have all the burned tissue cut away so as to prevent absorption of toxins from the burned tissue. Cut down until bleeding tissue is reached and then apply pressure to prevent loss of blood. It is painless as the nerve terminals have been destroyed. As soon as the granulating surface is clean skin-grafting should be done, as grafting early lessens scar formation. Rubber tissue makes an excellent dressing. The rubber is cut to fit the shape of the wound without overlapping the healthy skin. When it is changed there is practically no pain or bleeding, the granulations assume a firm and healthy condition, healing progresses rapidly, and there is very little contraction. For a sloughing burn with an offensive discharge brewer's yeast makes an excellent dressing. The water bath should be used only in fatal cases, as water aids absorption of toxins. Picric and carbolic acids have caused many cases of poisoning, and if used should be carefully watched.

In fatal cases of burns, of the bullosa type, death usually follows:

After 40 hours if the entire skin surface is destroyed.

After 70 hours if ½ the skin surface is destroyed.

After 120 hours if ⅓ the skin surface is destroyed.

In fatal cases of burns, of the escharotica type, death usually follows:

In 3 to 10 hours if the entire skin is destroyed.
In 6 to 21 hours if ½ the skin is destroyed.
In 24 to 36 hours if ⅓ the skin is destroyed.
In 40 to 54 hours if ¼ the skin is destroyed.
In 50 to 70 hours if ⅕ the skin is destroyed.
In 64 to 82 hours if ⅙ the skin is destroyed.
In 80 to 92 hours if ⅛ the skin is destroyed.
One arm and leg are considered ⅓ of the body.

* Read at the Elmira Clinical Society, January, 1911

INCORRECTNESS IN MEDICAL ONOMATOLOGY.

Editor New York State Journal of Medicine:

Sir: We are writing to-day "Anno Domini" 1911, or "In the year of the Lord," 1911. The people of the United States are a Christian Nation. In Christian churches throughout the world are read on New Year's day from the Epistle of St. Paul to Titus the words: "Let no man despise Thee."

My writings, demonstrating that our medical onomatology is to a large extent absurd, ridiculous, incorrect, unscientific, demonstrating also how this unfortunate and much regretted state can be remedied in the simplest and most natural way have been disregarded by the two official journals, the New York State Journal of Medicine and the *Journal of the American Medical Association.* This, I think, is despising my labors.

The consequence of disregarding a truth, which should be clear to every thinking man, in this case is that the evil, of which I have spoken, of introducing unscientific terms into our onomatology is assuming greater proportions all the time and an illustration of this fact is given on the cover of the December issue of your esteemed journal in the advertisement of a new medical dictionary, enumerating some new onomatological attrocities.

I shall speak seriously on the subject soon in two appeals, one to be addressed to the spiritual nobility of the German physicians and the other to the men of honor of the American medical profession.

Permit me to-day to point out the incorrect words in the aforesaid list:

Anaphylactin (this is simply nonsense).

Atticitis (I have not seen the dictionary and do not know what is meant by this word which as I read it would be making fun of the Attic language).

Autoserum (hybrid).

Bronchiloquy (hybrid).

Echophony (pleonasm).

Pyeloplication (hybrid).

Radiculitis (this is no word at all, in a joking way we might call it ridiculitis).

Thoracectomy (this is horrid).

Tuberculotherapy (hybrid).

Uricolysis (impossible word).

New York, January 1st, Anno Domini, 1911.

A. Rose.

CORRESPONDENCE.

Circular issued by the American Orthopedic Association and the American Pædiatric Society in reference to acute epidemic poliomyelitis, and addressed to health authorities and boards of health.

Anterior poliomyelitis is, so far as known, a communicable disease, being communicated from one patient to another and also by means of a third person. It occurs in epidemics and tends to spread along the lines of greatest travel. There is reason to believe that it is prevented from spreading by quarantine, and with the very great prevalence of the disease in the summer of 1910 it is the opinion of this committee that it is essential that it should be made a reportable disease in all states in order that its presence may be detected and its spread guarded against.

Of particular significance are the so-called abortive cases, where indefinite ailments occur in children in communities where frank paralysis also exists. These abortive cases of infantile paralysis are undoubtedly a source of infection, and their record and study is of much importance. In a community where cases of infantile paralysis occur cases of illness with sudden onset of fever and meningeal symptoms should be closely watched and regarded as possibly infectious. In such cases even recovery without paralysis does not establish the fact that the case was not abortive infantile paralysis.

All cases of infantile paralysis should be strictly quarantined, sputum, urine and feces being disinfected, and the same rigid precautions being adopted as in scarlet fever. This quarantine should, in the opinion of the committee, last for four weeks in the absence of definite knowledge as to when the infection ends. Children from infected families should not be allowed to go to school until the quarantine is abandoned. The transportation or transfer of acute cases in public conveyances should be strictly forbidden. It would be very desirable to adopt provisional quarantine measures in suspicious cases in a community where an epidemic prevails. The report of all cases of infantile paralysis to the public health authorities should be enforced by law, and all deaths from this cause should be properly described and registered. A careful study of epidemics by public health authorities is strongly advised.

(Signed) Robert W. Lovett, M.D., *Chairman.*
Henry Koplik, M.D.
H. Winnett Orr, M.D.
Irving M. Snow, M.D., *Secretary.*

LEGISLATIVE NOTES.

BILLS INTRODUCED INTO THE LEGISLATURE.

In Senate.

An Act to amend chapter 685, Laws of 1905, providing that the State Department of Health shall fix the area of pollution of Skaneateles Lake and of the streams of water flowing into the lake. By Mr. Walters. To third reading and Cities Committee. (Same as A. 1674.) Printed No. 1739. Int. 1422.

An Act to amend the State Charities Law, by adding a new section, 96, by providing for the transfer of idiots and imbeciles of penal and reformatory institutions to the Rome State Custodial Asylum, and appropriating $50,000 for a fireproof building for the care of such inmates. By Mr. Ferris. To Finance Committee. Printed No. 1773. Int. 1448.

An Act to amend the Penal Law, by adding a new section, 1142-a, prohibiting advertisements concerning certain diseases. By Mr. Stilwell. To Codes Committee. (Same as A. 614.) June 6th, Reported. June 14th, To third reading. Printed No. 1790. Int. 1457.

An Act to amend section 169 of the Public Health Law, providing for the endorsement by the State Regents of licenses or diplomas to practice medicine, of applicants examined or licensed by other State examining boards registered by the Regents as maintaining standards not lower than those provided by this article. By Mr. Ferris. To Public Health Committee. Printed No. 1843. Int. 1479.

An Act to amend section 243 of the Town Law, relative to the establishment and maintenance of sewer systems outside of incorporated cities and villages. By Mr. Brackett. To Internal Affairs Committee. Printed No. 1949. Int. 1529.

An Act to amend chapter 47, Laws of 1888, relative to the election and powers of the trustees of the Laura Franklin Free Hospital for Children, in the city of New York. By Mr. Roosevelt. To third reading and Judiciary Committee. Printed No. 2007. Int. 1552.

An Act to amend the county law, in relation to county hospitals. By Mr. Ferris. To Internal Affairs Committee. Printed No. 2102. Int. 1590.

BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

International Clinics, a quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pædiatrics, Obstetrics, Gynæcology, Orthopædics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners. By leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A. With the collaboration of Wm. Osler, M.D., Oxford; John H. Musser, M.D., Philadelphia; A. McPhedran, M.D., Toronto; Frank Billings, M.D., Chicago; Chas. H. Mayo, M.D., Rochester; Thos. H. Rotch, M.D., Boston; John G. Clark, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh; John Harold, M.D., London; Richard Kretz, M.D., Vienna. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Carlsbad. Volume II. Twenty-first Series. Philadelphia and London. J. B. Lippincott Company. 1911.

1,000 Surgical Suggestions. By Walter M. Brickner, B.S., M.D., Adjunct Surgeon, Mount Sinai Hospital; Editor-in-Chief *American Journal of Surgery*, with the collaboration of James P. Warbasse, M.D., Harold Hays, M.D., Eli Moschcowitz, M.D., and Harold Neuhof, M.D. 225 pages. Cloth bound, semi de luxe, $1; full de luxe, leather, $2.25. Surgery Publishing Company, 92 William Street, New York, U. S. A.

Plaster of Paris and How to Use It. By Martin W. Ware, M.D., New York, Adjunct Attending Surgeon, Mount Sinai Hospital; Surgeon to the Good Samaritan Dispensary; Instructor of Surgery in the New York Post Graduate School. Second edition, revised and enlarged. Price, cloth, square form, $1.25; de luxe, leather, $2.50. Surgery Publishing Company, New York.

The Blood and Its Anatomical Element. Application of the Microzymian theory of the living organization to the study of the anatomical and chemical constitution of the blood and to that of the anatomical and physical causes of the phenomena of its coagulation and of its other spontaneous changes. By A. Bechamp, formerly Professor in the Medical Faculty of Montpelier (France), Corresponding Member of the Academy of Medicine, etc. Translated from the French by Montague R. Leverson, M.D., of the Baltimore Medical School, and M.A. and Ph.D., of the University of Göttingen. Philadelphia. Boericke & Tafel. 1911.

Diseases of the Ear, Nose and Throat. For the family physician and the undergraduate medical student. By Henry Ottridge Reik, M.D., Associate in Ophthalmology and Otology in the Johns Hopkins University, and Surgeon in the Baltimore Eye, Ear and Throat Hospital, Baltimore, Md. Assisted by A. J. Neilson Reik, M.D., Surgeon in the Baltimore Eye, Ear and Throat Hospital, Baltimore, Md. With 81 illustration in the text and two colored inserts. New York and London. D. Appleton and Company. 1911.

BOOK REVIEWS.

A Treatise on Diseases of the Eye. By John Elmer Weeks, M.D., Professor of Ophthalmology in the University and Bellevue Hospital Medical College and Surgeon to the New York Eye and Ear Infirmary; Member of the American Ophthalmological Society; Honorary member of the Royal Hungarian Medical Society of Budapest, etc. With 528 engravings and 25 full-page plates in colors. Lea & Febiger. New York and Philadelphia. 1910.

This volume does credit to its author and to the publisher as well, for seldom do we find the factors which go to make up a useful and an attractive book combined to better advantage than in this one.

The author has brought to bear his profound knowledge of the subject of ophthalmology as well as his long clinical experience with a result which could not be other than it is here.

The articles on the General Principles of Optics, by Dr. William Norwood Souter, and Movements of the Eyeballs and Their Anomalies, by Dr. Alexander Duane, reflect the knowledge of the writers and are in keeping with the rest of the book.

The descriptions of operations are well written and easily followed and understood, which unfortunately cannot be said of all similar works.

The photographs and illustrations are well selected and carefully prepared.

There is much in the book which can, of course, be found in other books, and the original matter is at times the expressions of the author's personal opinions which would not meet with the unanimous endorsement of ophthalmologists generally. That the writer of a book has original opinions with the courage of his convictions, is really the only good reason one can have for undertaking a work of this kind and this publication has good reason for its existence.

The completed work, as a whole, presents to the profession the present status of ophthalmological knowledge in an up-to-date and accurate manner. It is well worth the price placed on it and will prove a helpful addition to the medical library. F. V. F.

Disease of the Pancreas: Its Cause and Nature. By Eugene L. Opie, Professor of Pathology, Washington University, St. Louis, Mo.; Formerly Member of the Rockefeller Institute for Medical Research and Pathologist to the Presbyterian Hospital of New York city. Second edition rewritten. Illustrated. Philadelphia and London. J. B. Lippincott Company. 1910.

The second edition of this most authoritative and complete exposition of abnormalities of the pancreas is a rewriting. The subject matter has been brought entirely up to date and in many particulars includes material which is new. The problems connected with the occurrence of hemorrhagic necrosis of the pancreas and the various forms of chronic pancreatitis are presented with great clearness. The wide interest in the subject and the greater frequency of the clinical recognition of diseases of this organ make the appearance of even a new edition of this work by its well-known author something worthy of attention.

Dudley Roberts.

Vaccine and Serum Therapy. Including also a Study of Infections, Theories of Immunity, Opsonins and the Opsonic Index. By Edwin Henry Schorer, B.S., M.D. St. Louis, C. V. Mosby Co. 1909. 131 pp., 4to. Price: Cloth, $2 net.

This work presents in a clear and interesting manner the results of the most recent research along the line of immunity to infection, and the methods by which this is acquired or achieved.

After a brief introduction, dealing with the nature and course of infections, there follows a chapter on the theories of immunity, with especial emphasis on

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Ehrlich's side chain theory. Then follows a long description of the technic of determining the opsonic index, together with a critique as to the value of opsonic determinations, and the nature and role of opsonins in health and disease.

The latter half of the work is devoted to "vaccine" and "serum" therapy, and states in a clear and definite manner what has been achieved, and what may be expected from this line of treatment.

Owing to the possibility of untoward effects following serum therapy, and the development of anaphylaxis in susceptible individuals, the author is opposed to the indiscriminate use of diphtheria antitoxin, etc., in those cases where the danger of infection is inconsiderable.

The work is designed especially for the general practitioner and is worth more than passing study by those interested in the combating of disease.

J. Eddy Blake.

A Handbook of Practical Treatment. In three volumes. By 79 eminent specialists. Edited by John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania; and A. O. J. Kelly, M.D., Assistant Professor of Medicine, University of Pennsylvania. Volume II: Octavo of 865 pages, illustrated. Philadelphia and London. W. B. Saunders Company. 1911. Per volume: cloth, $6.00 net; half morocco, $7.50 net.

The appearance of the second volume of the series in this system gives a somewhat different impression of the scope of the work than was given by the review of the first volume. At the outset it appeared that we were to have an encyclopedia of therapeutic measures, but in the present volume it is evident that the work is to deal with the treatment of all known diseases and conditions seriatim. It is quite evident that the subjects are to be treated fully and in the most modern manner. In the chapter on tuberculosis, for example, there is the fullest description of methods of home, out-of-door and sanatorium treatment of the disease that makes excellent reading with its many illustrations even for one having no particular interest in the subject. The scope of the work becomes evident when we observe that there are chapters on such subjects as The Surgery of the Heart, The Surgical Complications of Typhoid Fever, Syphilis, Foot and Mouth Disease, and all of the infectious diseases which have ever been described.

For such as are in need of an encyclopedia of medicine in which a knowledge of pathology and diagnosis is in large part assumed, the work will be found satisfactory.

Dudley Roberts.

Clinical Pathology in Practice. With a short account of Vaccine Therapy. By Thomas J. Horder, B.Sc., M.D., F.R.C.P. Medical Registrar and Demonstrator of Morbid Anatomy. (Late Demonstrator of Pathology and Junior Demonstrator of Practical Medicine) at St. Bartholomew's Hospital, Physician to the Great Northern Hospital and to the Cancer Hospital, London. London. Henry Frowde, Oxford University Press. Hodder & Stoughton, Warwick Square, E. C., 1910.

The author's aim in the production of this work seems to have been to present to the general practitioner a brief survey of the scope and usefulness of modern methods of diagnosis which have been developed by the laboratory, and to merely indicate how the efforts of the pathologist and bacteriologist may be of aid to him in the treatment of certain conditions.

It is obviously not intended to serve as a laboratory text book; indeed, the author has gone to some trouble to exclude from the text descriptions of technique. Nor, as one might infer from the title, is there any systematic account of pathology in any of its many phases, but the diseases are merely named and defined in which pathological examination would be of aid to the observer.

Among the many hundred omissions of things which one would naturally suppose should be included in the text of this subject, the most apparent probably is the entire failure of mention of the value of differential counts in bloods presenting a leukocytosis in the leukemias—or pernicious anemias.

The general content covers the various effusions, exudates, secretions and excretions of the body consequent to disease, but in the majority of instances in so perfunctory and insufficient a manner as to cause confusion rather than clarity. This is further emphasized, as the author himself states in the preface, by a most perplexing inequality in the treatment of the different sections. "Thus in some chapters the diseases form the subject of discussion, whereas in others it is the materials dealt with."

It is difficult to conjecture the *raison d'etre* of this book, unless it be for the value ascribable to the very brief *résumé* of vaccine therapy, which is considered in the last two chapters.

James Taft Pilcher.

The Principles of Pathology. Volumes I and II. By J. George Adami, M.A., M.D., LL.D., F.R.S., Professor of Pathology in McGill University, and Pathologist-in-Chief to the Royal Victoria Hospital, Montreal; late Fellow of Jesus College, Cambridge, England. Volume I. General Pathology. Second edition, revised and enlarged, with 329 engravings and 18 plates. Volume II. Systemic Pathology. Second edition, revised and enlarged, with 301 engravings and 15 plates. Lea & Febiger. Philadelphia and New York. 1910-1911.

Volume I, General Pathology, is a magnificent monument to its authors.

As a means of supplying a basis of the knowledge of the principles of special pathology, certainly no work of its equal is to be found in the English literature.

The language is of a kind easily comprehended and the book is equally valuable to the student and to the pathologist.

Volume II, Systematic Pathology, is on Special Pathology and completes the General Pathology of Volume I, is to-day the best work on Special Pathology in the English language. The book is rather too bulky and yet when one studies it he finds it difficult to decide what could be left out without impairing the usefulness of the book.

The bibliography is most complete and one recognizes in the illustrations a distinct improvement on the old standbys which have done service so generally.

The abundance of original work is clearly revealed and in that respect differs from many other works of similar nature.

F. M. J.

DEATHS.

Gilbert H. Aldrich, M.D., Stony Creek, died 1911.

Edmund L. Cocks, M.D., New York City, died July 5, 1911.

Henry C. Hendrick, M.D., McGraw, died May 5, 1911.

William P. Brierley, M.D., Albany, died June 22, 1911.

James C. Hutchison, M.D., Rockford, Ill., died June 11, 1911.

Frederick L. June, M.D., Waterport, died June 6, 1911.

Thomas D. Strong, M.D., Westfield, died June 6, 1911.

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EDITORIAL DEPARTMENT

THE WRECK OF THE FEDERAL EXPRESS.

LAST month there was another shocking wreck on the N. Y., N. H. and H. R. R., the second of a similar nature in two years. The engineer of a fast express took a crossover switch at sixty miles an hour, wrecked his train, lost his own life and sacrificed the lives of many of his passengers besides cruelly maiming many more.

The regulations provide that crossover switches shall be taken at a rate of fifteen miles an hour. Any engineer who takes such a switch at a rate of sixty miles an hour knows that nothing but a miracle can save his train from wreckage and that his own life will pay forfeit for his recklessness. It is not reasonable to explain and condone the accident by saying that the road expects an engineer to bring his train in on time and that such accidents are due to his desire to escape blame for failure to make his station on the minute. There are some risks an engineer will doubtless assume, but they must not be too great. He will not knowingly run into an open switch although he may run by a signal. Even a good wigging from the division superintendent is preferable to death, for a dead engineer earns no money for his family.

It is evident that such accidents as this must be accounted for in some other way and it is to the interest of the engineer, the railroad and the public to come to some better understanding as to these occasional lapses on the part of the man at the throttle which are fraught with such dreadful consequences.

In May, 1910, a committee, appointed by the American Neurological Association, to inquire into the occurrence of mental disease among persons employed by transportation companies, made its report to the Association. This report was published in the *Journal of Nervous and Mental Disease,* Vol. XXXVIII, April, 1911. and should be read by every railroad president and master of transportation in the country. Accidents such as that which befell the Federal express tear up the track, interfere with the movement of trains, and cost the road immense sums of money for repairs, replacements and the payment of damages. Wherefore as a matter of economy and good railroading it behooves the persons interested to read and profit by this report. The conclusions merit quotation and are as follows:

1. Out of 5,832 commitments, 60 were of railway employees (over 1 per cent.).

2. Out of 1,905 male paretics seen in city clinics, 40 were railway employees (nearly 4 per cent.).

3. Out of 2,083 paretics at present in hospitals for the insane, 102 were railway employees (nearly 4 per cent.).

4. The examining physician for two railway companies has noted in four years among the employees of these companies, 26 cases of mental disease, 15 of which were cases of paresis.

The committee further states that while it has been unable to discover any fatal accidents due to the mental incompetence of such employees it has learned of several accidents due to this cause and several cases in which accidents have been narrowly averted. It further recommends that all persons suffering from paresis and other mental disease be kept from positions

of responsibility in the railway or marine service.

So obvious a recommendation seems hardly necessary. No one but a crazy man or a politician would think of either putting or keeping an incompetent in a position of grave responsibility. The cases cited by the committee show very plainly the duty of railway authorities to subject their engineers and other responsible employees to far more rigid and frequent examinations than is at present the custom. Color tests are all very well in their place, but of what use is it that an engineer should be able to distinguish between green and red if he is going to have moments of mental apnœa. A case known to the writer will illustrate the point. An ambulence chauffeur had several minor accidents, such as running into other vehicles, though without serious consequences. Examination by one of the neurologists of the hospital showed that the man had moments, if not of actual unconsciousness, yet of mental inactivity. Thus after having been paid off he was known to have been shortly afterward unconscious of the fact until reminded by a fellow employee and told that his pay envelope was in his pocket. Shortly after the same thing happened. The Wassermann test was negative, yet the neurologist who examined him assured the writer that he was positive the man had syphilis. A positive Wassermann test would make it a matter of doubtful expediency to retain the individual in the capacity of an engineer. In these days of high speed trains there is no test too severe to which the engineer should be subjected to assure the authorities of his fitness. One thing is certain. The present tests do not go far enough and ought to be more exhaustive and more frequent. Moreover it is manifestly unsafe to trust the fireman to supplement the engineer. His duty is to shovel coal and he cannot watch signals, watch and check up the engineer who is his superior officer and feed the glowing furnace of an engine traveling at high speed, all at the same time.

A CHECK IN THE FIGHT AGAINST QUACKERY.

In a recent decision of the Supreme Court of the United States, it was decided that the law forbidding false statements regarding food products or medicines applied only to the ingredients of the package. Cane sugar must not be called maple sugar when flavored to resemble the genuine article. No one would be really injured who took the substitute. If however, an enterprising but conscienceless vendor chooses to put up milk sugar in capsules and call it Kancer-Kur, he may do so without let or hindrance.

It is not the intention of this Journal to criticise a court decision, although it is not improper to refer to the fact that there were three judges who dissented. The opinion is therefore that of a rather closely divided court. This is nevertheless the law of the land and however much we may regret it, " 'Tis true it is a pity and pity 'tis, it's true."

Quackery has for the time being triumphed and may prey upon its credulous and unhappy victims without let or hindrance. The League for Medical Freedom may well flaunt its banners aloft for there is now freedom to deceive the common people, freedom to lie about the value of compounds or samples. The tincture of valerian may be given a fancy and copyrighted name and extolled as a sure cure for any or all the ills to which poor human nature is heir. Incidentally and by reason of false claims, skillful and attractive lying, two cents worth of valueless product will be sold for a dollar to the great comfort and profit of the swindling fraternity who profit by the misfortunes and credulity of their unhappy fellows.

No reform in this world has ever been accomplished without a mighty struggle. The conflict is like the rising of the tide. Each incoming wave seems to waste itself in unavailing spray, but each successive wave reaches a higher level until at last flood tide is reached. So it is with this irrepressible conflict between the motley forces which are animated solely by greed and the conscientious and self-sacrificing men who place the public welfare above the almighty dollar. This defeat is only temporary. Already the better grade of magazines and newspapers are scrutinizing their advertising columns more closely. Not a few of the monthly journals refuse to admit all advertisements, medical or financial, making extravagant claims.

The law as it stands is a manifest contradiction. Its very absurdity will impress itself upon the good sense of the American people. They will not long tolerate the fact that it is illegal to lie about the ingredients of a remedy but perfectly legal to make the most absurd and preposterous claims on its behalf, which can be promptly shown to be false.

Original Articles

EXOPHTHALMOS, A COMMON SYMPTOM OF CHRONIC BRIGHT'S DISEASE.*

By HERMON C. GORDINIER. M.D.,
TROY, N. Y.

MY object in presenting this preliminary and brief communication is to direct the attention, particularly of the general practitioner, to the common occurrence of exophthalmos and the associated external ocular signs in chronic nephritis, and to emphasize the importance of these signs from a diagnostic standpoint.

We are all more or less familiar with the ocular manifestations of chronic Bright's disease discoverable by ophthalmoscopy, such as retinal hemorrhages, albuminuric retinitis, arterio-sclerotic changes in the vessels of the retinæ, neuroretinitis, etc., but I feel reasonably sure that exophthalmos, a very common objective symptom of nephritis, has been entirely overlooked because we have not been cognizant of its association with Bright's disease. This has been due for the most part to the absence of any reference to this sign in our standard text-books or systems of medicine, or in special treatises on the subject of nephritis. So far as I have been able to ascertain from a careful search of the literature, the only article which has appeared on this subject is the one by Prof. Barker and Dr. F. M. Hanes, of the Johns Hopkins School, read before the Association of American Physicians in Washington in May, 1909. They state that among the total admissions of thirty-three cases of chronic nephritis during the first four months of 1909, sixteen (or 48.4 per cent.) showed exophthalmos. The exophthalmos varied greatly in degree, as did the gravity of the nephritic processes in the various individuals. Indeed, it may be stated that these cases, presenting evidences of serious intoxication (suburemic and uremic symptoms) most frequently showed exophthalmos and one or more of the allied ocular signs—anisocoria, von Graefe's, Moebius or Stellwag's sign. Exophthalmos has been an obvious sign in all of the cases of chronic nephritis which have died in the Johns Hopkins Hospital since 1909—seven in number. We have also observed that the cases of chronic nephritis showing albuminuric retinitis during this period, have invariably shown exophthalmos. In this series of sixteen cases von Graefe's sign was positive in eleven, Stellwag's was positive in thirteen, and Moebius' sign was observed in eight cases. The pupils were unequal in five cases, and albuminuric retinitis was observed in eight cases. In twelve out of the sixteen cases exophthalmos was associated with arterial hypertension, and in two cases a maximum degree of exophthalmos was associated with the maximum degree of arterial tension and, as the blood pressure fell, the eyes became less prominent.

My observations entirely corroborate those of Drs. Barker and Hanes. I have had during the past year the opportunity of studying twenty-eight cases of chronic nephritis—two of the chronic parenchymatous type and twenty-six of the chronic interstitial form. Of this number fourteen presented exophthalmos of varying degrees, together with one or more of the associated ocular manifestations. The two cases of large white kidneys presented a marked degree of exophthalmos. They were observed late in the disease, suffering with marked renal and cardiac insufficiency and uræmia.

The cases of the chronic interstitial type of nephritis—twenty-six in number—all presented hypertension, left, and occasionally right-sided cardiac enlargement, with accentuation of the aortic and occasionally of the pulmonic second sounds and the urinary findings that exist in this type of disease. Of this number twelve presented exophthalmos, von Graefe's and Stellwag's sign, and seven the sign of Moebius. In three cases the pupils were irregular. In five cases the exophthalmos seemed more marked on one or other side. In two of the cases the enlargement was greater on the left side, and in three on the right. In none of the cases that have come under my observation was the thyroid gland visible or palpable. The exophthalmos, although most marked in the advanced cases suffering from serious toxæmic manifestations, was distinctly visible in those of a less advanced type with fairly compensated hearts and without distinct uræmic manifestations. In five of the twelve cases with exophthalmos albuminuric retinitis was present, and in six cases arterio-sclerotic changes in the vessels of the retinæ with hemorrhages were observed. In none of the cases was tachycardia a prominent symptom.

The most probable explanation of the exophthalmos and associated ocular signs in chronic nephritis (von Graefe, Stellwag and Moebius) is an irritation of the cervical sympathetic system of fibers by toxines floating in the blood stream the result of a chronic renal insufficiency. We know both by clinical and experimental observations that paralytic lesions of the oblongata and cervical part of the spinal cord and section of the cervical sympathetic fibers produce exophthalmos, narrowing of the palpebral fissure and contracted pupils; and we also know from the early observations of Claude Bernard that when the cervical sympathetic fibers are stimulated the converse occurs, namely, widening of the palpebral fissure, exophthalmos, and dilatation of the pupil. Aran and Kaufman demonstrated in 1860 that this exophthalmos resulted from stimulation of Muller's non-striated muscle in the eyelids, which experiments have been more

* Read before the Medical Society of the State of New York, at Albany, April 19, 1911.

recently confirmed by Macallum and Cornell in 1904. The course taken by the fibers of Muller's orbital muscle and their action has been recently described by Landstrom. He finds that these fibers of smooth muscle form a narrow cuff encircling the anterior portion of the orbit. The fibers of the posterior portion of the cuff pass backward and are inserted into the sclerotic coat of the eyeball, while the fibers of the anterior margin of the cuff are inserted into the upper or lower lids, running obliquely toward the palpebral slit. The middle portion of the cuff constitutes the fixed point from which the muscle acts and is attached by short fibrous bands to the bony wall of the orbit. Hence when the muscle contracts it tends to draw the eye forward, producing exophthalmos; to separate the lids, creating Stellwag's sign, and to cause the axes of the eyes to diverge, with the production of the sign of Moebius.

In conclusion I would state that we have in exophthalmos and its associated external ocular signs valuable objective symptoms that should make us keen to the presence of chronic nephritis, particularly if unaccompanied by thyroidal enlargement or marked tachycardia. And while exophthalmos accompanies Graves' disease, paralysis agitans, retro-bulbar growths, brain tumor, sinus, thrombosis or hydrocephalus, and prominent eyes occur in cases of myopia and tuberculosis, its presence should always lead us to carefully consider in our differential diagnosis chronic nephritis.

Discussion.

Dr. L. F. Bishop, New York City: I have had this question of exophthalmos in mind for some time, and I have observed a good many cases in hospital work, particularly of chronic Bright's disease, and I would like to confirm what every physician will confirm when he thinks back himself, that most cases of Bright's disease have more or less exophthalmos. I have also observed that this rather serious sign only occurs in cases that are well developed, and in which the prognosis is not very good. In one of my private patients it seemed to me that the exophthalmos varied with the patient's condition, and when this patient's kidneys were in bad shape and tension was high and autointoxication severe, the prominence of the eyes was much more than at times when she was in a good condition. It is rather curious that such a very prominent symptom should have been formally noted so late as two years ago—a symptom that every one sees in Bright's disease just as soon as it is brought to his attention.

I congratulate Dr. Gordinier on the lucid way in which he has presented this subject. I think it is a very interesting one.

DEATHS OF ATHLETES AND FATALITIES IN ATHLETIC GAMES DURING THE YEAR 1910.*

By ROBERT E. COUGHLIN, M.D.

THERE never could be anything more tragic than the sudden and accidental death of an athlete while publicly engaged in an athletic contest or game. A few moments before we have a strong, well built, sturdy, well muscled, splendidly proportioned individual whose whole thought for several months was the preservation of all his natural forces and the development of a superior musculature. He has been abstemious at all times, has denied himself all pleasures and luxuries, has sacrificed his time and everything in life to one end, namely, that he may be "fit" when called upon at the supreme moment. Watch him as he goes into the contest with eyes bright and sparkling, cheeks pink or rosy, skin clear and hard appearing, with muscles moving and gliding underneath the natural body covering with such ease and flexibility as to suggest well oiled machinery. All the functions of normal muscles are brought into play. The unstriped or involuntary as well as the striped or voluntary muscles enter into these processes. Chemical, thermic, electrical changes are going on along with contractility, conductivity and irritability all producing in one word motion. There never is a time when muscles respond so promptly and quickly as when an athlete is in conditon. The step is elastic and bounding. There is a feeling as if one would like to spring into the air and fly. All is action and the stored up energy is difficult to realize or estimate. When we consider this picture and contemplate the possibilities which may occur in a few hours, or a few minutes, or a few seconds, or in the actual time of a dream, which is the time it takes a book to drop to the floor, one is simply horrified. Something awful has occurred and our athletic hero lies before our eyes a bruised, bleeding, lacerated, crushed, hardly recognizable mass of quivering, functionless organic matter. What a change and what a pity?

There never was a sport or pastime or an occupation for that matter that did not have some element of danger attached to it. Life insurance companies point out hazardous occupations such as bridge builders, caisson workers, linemen, crane men, blast furnace employees, jockeys, policemen, prison guards, raftsmen, switchmen, trackwalkers, steeple-painters and repairers, submarine operators, tunnel construction workers, trench and well diggers. Nearly all these occupations will make it difficult for the applicant to secure insurance.

Sometimes a fatal accident will be the result of a misstep or carelessness, as for example,

* Read before the Medical Society of the County of Kings, at Brooklyn, June 20, 1911.

the "steeple Jack" who stumbled down stairs in his own home causing a fracture of the neck with prompt death; or the mountain guide who was known for his courage and carefulness who one day while in his home attempted to hang a picture on the wall and in doing so lost his footing, fell on his head, fracturing his skull and died as the result.

In the year 1905 the writer collected the statistics of the deaths of athletes and fatalities in athletic games with the result that he was enabled to draw a few conclusions therefrom. (See *Medical Record*, June 2, 1906.) With the hope that a comparison of the year 1905 with the year just closed might be at least interesting he determined to collect all the deaths of athletes from whatever cause and all fatalities in athletic games or contests beginning January 1, 1910, and ending December 31, 1910. In presenting these figures the hope has been fostered that we may decide in this manner if possible the susceptibility of athletes to certain diseased conditions and the most dangerous or fatal games indulged in.

The whole number of deaths collected amounted to two hundred and six as against one hundred and twenty-eight in 1905. Fifty-one were due to disease as compared with fifty in 1905. One hundred and twenty-nine were accidental deaths due directly to games or contests, while in 1905 seventy-eight deaths were due to accidents of different kinds. There were nine deaths by accidents which were not connected with games or contests. There were also seventeen deaths of athletes by disease the name of which could not be ascertained.

Of the deaths by disease forty-eight were stated the average age being forty-one years as compared with thirty-one years of age in the year 1905. The oldest age at death was eighty-five, as against eighty-seven in 1905. The youngest was sixteen years of age as compared with eighteen years in 1905.

Of the deaths by accident seventy-eight were stated, the average age being twenty-two years and six months. In 1905 the average age was twenty years. The oldest age attained was sixty-seven years, while in 1905 the oldest age was sixty years. The youngest age was eleven, while in 1905 the youngest age was twelve years. The average age at death of the whole number was twenty-eight years and nine months. In 1905 the average age was twenty-six years and one month.

Of the deaths by disease, heart disease was stated to be the cause of death in eight cases; typhoid fever in six; pulmonary tuberculosis in three; senility in three; pneumonia in two; Bright's disease in two; peritonitis in one; goitre in one; locomotor ataxia in one; hemorrhage in one; appendicitis in one; empyema in one; cancer in one; insanity in one; complication of diseases in one; operation in one; artero-sclerosis in one; paralysis in one; apoplexy in one; liver disease in one, and septic wound in one. In 1905 cerebro-spinal meningitis was stated to be the cause of death in nine cases (owing to an epidemic of the disease during that year); cardiac disease in eight; pneumonia in seven; pulmonary tuberculosis in seven; Bright's disease in five; appendicitis in four; typhoid fever in four; suicide in two; apoplexy in one; suppurative tonsilitis in one; splenic anemia in one; senility in one.

During the year just closed forty-six football players died—thirty-three of these deaths were directly due to the game; seven were caused by disease; three were due to accidents which had nothing to do with the sport, while four were from unknown causes. In 1905 football was the cause of death in twenty-eight cases, seventeen were high school players, all immature boys of eighteen years or under. Three were physically fit college men while the others were occasional players.

In 1910, nine were physically fit college men, ten were high and public school boys, while eight were occasional players of the game.

The causes of death in football fatalities were stated as follows: Fracture of the skull, 10; internal injuries, 7; septic wound of leg, 4; injury to spine, 2; fracture of spine, 2; concussion of brain, 2; acute dilatation of heart, 1; brain hemorrhage, 1; tumor of spine, 1; paralysis of spine, 1; goitre from blow on neck, 1; old contusion, 1.

The deaths of football players by diseased conditions were: Typhoid fever, 3; pneumonia, 1; peritonitis, 1; Bright's disease, 1; cardiac disease, 1. Other deaths occurred which had nothing to do with the game, such as train accidents, suicide and foul play.

Of 499 accidents, not including deaths, the injuries were as follows: Accidents at first regarded as critical, 17; concussion of brain, 12; taken from field unconscious, 14; broken collar bones, 66; broken legs, 36; broken noses, 35; broken ribs, 26; broken arms, 19; broken ankles, 17; broken fingers, 15; broken shoulders, 11; broken wrists, 10; broken toes, 7; broken hands, 5; broken jaws, 2; broken cheekbones, 2; dislocations, 52; lacerations, 43; torn ligaments, 32.

Thus it will be seen that the new rules instituted in 1910 have apparently increased the number of accidents while they have not diminished the number of deaths. For comparison we will review the football fatalities and injuries for the past ten years as follows:

In 1901, 7 killed, 74 injured; 1902, 16 killed, 106 injured; 1903, 14 killed, 63 injured; 1904, 14 killed, 276 injured; 1905, 28 killed, 200 injured; 1906, 14 killed, 160 injured; 1907, 15 killed, 166 injured; 1908, 11 killed, 304 injured; 1909, 30 killed, 216 injured; 1910, 33 killed, and 499 injured.

Football economics show that it costs the average college like Harvard, $35,000 to put a

team through a course of six or eight weeks. Some have figured $1,200 per player. Thirty-five men have to be taken into consideration and not eleven as one would suppose.

As a matter of interest one death, namely Ralph Wilson, was attributed to the new rules. Wilson was crack right halfback on the Wabash (Ind.) College football team. He was killed in a trick play such as is encouraged under the new rules. Although he weighed 175 pounds he was regarded as the speediest and most brilliant player on the team. Accounts read that he made the first touchdown for his team by a long run. A little later Coach Bender called for one of his fake end runs, which consisted of sending a wedge around an end to mislead the opposing team, while a halfback dashes with the ball through an opening made for him by a guard, who steps to one side. A player of the St. Louis University team scenting the subterfuge when the Wabash guard stepped aside, leaped into the breech. Wilson, hurling forward at a tremendous speed, crashed against his knee, fracturing his skull. In commenting on this death Dr. D. C. Todd said: "The new rules hark back to the game as it was played in 1900 and I pointed out when the mass play first began to come into favor that it was less dangerous than open play. The danger in football is not from weight but from momentum and speed. The new rules make for speed and momentum. They lead to the use of lighter players because they require faster men. When you reduce the size of your player you reduce his resisting power in motion, and as a result, when he is thrown, he is more liable to injury than a heavier man would be."

The death of Captain Rudolph Munk of the West Virginia University team resulted in the arrest of an opposing player charged with murder. The testimony on which the warrant was issued was furnished by a Pittsburg attorney, who umpired the game. The umpire stated that the ball was on Bethany's 30-yard line when Munk started down the field for interferences. "He was met by McCoy, who ran toward Munk as they both were running down the field. Ten yards behind the scrimmage line, when Munk was in front, McCoy struck him in the back of the head with his fist, Munk fell and McCoy fell also, but quickly regained his feet, looked at Munk and started off the field." Umpire Young said the blow appeared to him clearly intentional and he ordered McCoy out of the game. The autopsy disclosed the fact that Munk's death was caused by a blood clot at the base of the brain and could not have been caused by a former injury.

During the year 1910, 55 baseball players died, 24 of these deaths were directly due to baseball, 15 were caused by disease, 3 were caused by accidents which had nothing to do with the game and 13 died from unknown causes. In 1905, 12 deaths were due to baseball.

Of the 24 accidental deaths occurring during 1910, none of the deaths were among the first-class professional players, 2 were semi-professional players, 2 were high school boys, 5 were public school boys, 2 were business men while the rest were unclassified.

The accidental deaths due to the game were as follows: Fracture of the skull, 9; fracture of neck, 3; heart blow, 4; acute dilatation of heart, 2; internal injuries, 1; struck by ball, 1; blow in abdomen, 1; cerebral hemorrhage, 1; infected knee, 1; falling off bleechers, 1. In 1905 the causes of death in the 12 cases were stated as follows: Shock from blow over cardiac area, 5; head injuries, 4; cardiac failure while running to base, 1; blow in abdomen, 1; heat exhaustion, 1.

Of the 15 baseball players who died during the year just closed from diseases of different kinds the disease was stated as follows: Cardiac disease, 3; insanity, 2; pulmonary tuberculosis, 1; pneumonia, 1; complication of diseases, 1; locomotor ataxia, 1; hemorrhage, 1; appendicitis, 1; empyema, 1; cancer of throat, 1; typhoid fever, 1; operation, 1.

The accidental deaths which had nothing to do with the game of baseball were from falls and suicides; 2 were due to the former cause and 1 from the latter.

In the greater number of instances of accidental deaths due to the game blows over the temple were responsible for the deaths as in the case of John F. Burns of the Rensselaer Institute who was struck on the temple, the same causing a fracture of the skull from which he succumbed the following day.

A pitched or batted ball striking the abdomen or heart region may produce death as in the cases of Becker and Ruhling. Young Becker was in the pitcher's box. He had succeeded in putting out two men and Towart came to bat. Becker threw over two strikes and there were two balls recorded when Becker prepared to strike him out. With great force he hurled the ball toward the plate. Towart's bat met it squarely and the lively ball was sent out in a straight line direct for Becker. He did not shirk the catch but put his hand out waist high to receive the hot liner. The ball was lower than he judged and slipped through his fingers, hitting him in the body close to the cardiac region. Only a moan was heard by his companions as the ball dropped to the ground. Becker stooped for it and then, although he staggered on his feet, threw it unerringly into the glove of the first baseman. Towart had been running toward the base but the man on first caught him out a second before he touched the bag. In watching the play the boys had not noticed the

pitcher who had fallen to the ground in an unconscious condition. Towart was the first to notice that Becker was lying on the ground but when he ran over to him he was dead.

Another peculiar accident may be mentioned in the instance of Leonard Hand, 21 years of age, who was in the pitcher's box serving to the batsman, when someone in practice before the game threw a ball directly at him. At the same time the batter hit a ball at him. In attempting to dodge them both he failed to avoid either, and both balls hit him, one behind the ear and the other on the right temple. He dropped unconscious and later died.

Still another instance may be related where Frank Kostichryz, 15 years of age, in his desire to get a hit leaned too far over the plate, reeled and fell. The ball had hit him on the right temple and in falling he broke his neck. When a few spectators rushed up and tried to resuscitate him they found the boy dead.

One man died as the result of throwing a ball from home plate to second base. After making the throw he sank to the ground unconscious. He was a retired member of the United States Navy. Heart disease was stated to be the cause of death.

During the year 1910, 33 pugilists died, 23 of these deaths were directly due to such contests, 7 were caused by disease and 3 were accidental deaths having nothing to do with the sport. In 1905, 6 deaths were due to boxing. Blood clot in the brain was the autopsy report in 2 cases; shock from blow over the heart was the cause of death in 1, while in the other 3 cases the cause of death could not be determined.

Of the 23 accidental deaths occurring during the year of 1910 only one boxer was considered a first-class man; 11 were second-raters and 5 were amateurs, the others could not be classified.

The accidental deaths due to pugilism were as follows: Fracture of the skull, 5; hemorrhage of the brain, 6; concussion of brain, 1; fracture of neck, 4; syncope, 3; acute dilatation of heart, 2; solar plexus blow, 1; internal injuries, 1.

Of the 7 pugilists who died during the year just closed from diseased conditions the cause of death was stated as follows: Heart and kidney disease, 3; pulmonary tuberculosis, 1; typhoid fever, 1; senility, 2.

The accidental deaths having nothing to do with pugilism were: Pistol shot wounds, 1; gas poisoning, 1; suicide, 1.

It will be noticed that in most of the accidents in boxing the injuries were about the head such as fracture of the skull, hemorrhage of the brain, fracture of the neck and concussion of the brain. In several of the fatal accidents it was stated that the serious injuries were produced by the head striking the floor as in the following: "According to the verdict McCarthy met his death through a fracture of the skull sustained by striking the floor of the ring after he had been delivered a blow in the face by his adversary."

As a rule these deaths were not the result of severe punishment, but due to the poor and incomplete construction of the rings. Insufficient padding of the posts and the floor was directly responsible for the deaths. Some improvement has been made because of these accidents but there is still room for a great deal more improvement. Stretching a piece of canvas over a hard board does not make the floor any softer for the participants of boxing. It may save the head from being cut but the force of the impact on the floor has not been diminished. The trouble is that as soon as you put anything on the floor to make it softer there is less spring to the flooring and light springy footwork is absolutely necessary in boxing. One physician has invented a covering for the floor of the ring the composition of which is composed of cork for the most part. So far no boxing manager has ever given it a trial. It does, however, also make the footwork a little slow and diminishes springy movements.

To show how poorly constructed some of the rings really are the following is an illustration: "Ginger" or Edward Williams, a young heavyweight pugilist of Vistitia died on February 24, 1910, in a hospital in Coalings, Cal., from injuries suffered during a prize fight. He was knocked through the ropes in the third round and in falling his head struck a projecting board, fracturing his skull at the base of the brain.

Fatal syncope was stated to be the cause of death in three instances. These generally occurred when the victims were getting the better of their opponents as in the case of Frederick Castor, 20 years of age, who had the better of the bout so the testimony read when in the last round while trying to knock out his rival he suddenly fell unconscious.

In England and Australia six and eight ounce gloves are used in place of the four and five ounce gloves which are generally used in America. This, in a measure, would explain the small number of serious accidents in boxing in these countries as compared with the fatalities in the ring in this country. Manager McIntosh says that six ounce gloves should be in general use, especially among the heavy weights. He says that with gloves of this size anything approaching brutality is impossible. One man can not cut his opponent, but he can win on points. To mark a man is practically an impossibility. Anything that would tend to preserve a fighter's good looks would be welcomed by us here in America, where we are tired of looking at malformed cauliflower ears, broken down noses and toothless mouths.

The oldest pugilist to die in the year just closed was Jem Mace, who was considered by all Englishmen as a worthy survivor of a notable English tradition. Mace was a supreme master of a craft once esteemed by all Englishmen. He lived an honorable life of many interests, and though he died poor it was not through stupidity or dissipation. Mace lived to attain the age of seventy-nine years, and was active and well up to a short time before his death. In regard to Mace's poverty in his declining years, one must remember that no large purses, not even for champion bouts, were offered in his days.

The most tragic death during the year was the assassination of Stanley Ketchel for an alleged insult. It may be interesting in passing to note that this young pugilist had fought over one hundred battles, meeting the best men at all times, and that, although he was only twenty-two years of age, he was endeavoring to regain his health on the ranch where he was killed.

A comparison of the fatalities in the ring during the years 1905 and 1910 would show that there were four times as many deaths in the latter year. This can be explained, in a measure, for the reason that very little boxing was indulged in, comparatively speaking, during the former year, probably because the Horton law had been repealed in New York state, and one boxing bill after another had been defeated, as, for example, the Frawley bill. During 1905 glove contests were only allowed in three states in the Union while in 1910 such contests were held in many of the eastern cities every night in the week, with the exception of Sunday.

Seventeen all around athletes died during the year 1910; four of these deaths were accidental, while the remaining were due to disease.

The cause of death in the accidental cases was as follows: Fracture of skull, one; hemorrhage of the brain following training, one; infected wound, one.

Of the deaths by disease the following were stated: Heart disease, two; pneumonia, two; Bright's disease, one; pulmonary tuberculosis, one; liver disease, one; over-training, one. The particular disease which caused death could not be determined in the remaining cases.

The death of Thomas Thornton, who was a well built and active young man of twenty-one years was most unusual. He was waiting on the footway of the Pittsburg, Virginia and Charleston Railroad bridge in Pittsburg. During the wait he was amusing himself and a number of spectators with his athletic ability by leaping up a short flight of steps. On one of his leaps he miscalculated the distance and fell a distance of about eight feet, striking his head near the base of the brain. Thornton groaned once or twice, gave a few spasmodic quivers and lay flat on his face. The spectators thought he was shamming, but when they reached him he was dead.

Basketball was the direct cause of four deaths during the year 1910. One was due to blood poisoning, one to heart dilation, one to valvular heart disease, aggravated by over-exertion and excitement, and the remaining one was stated to be from internal injuries received.

Three golf players died during the year. All the deaths were due to diseases which had nothing to do with the game directly. Willie Anderson, the most noted of any, died at the age of thirty-one of arterio-sclerosis. Mr. W. J. Weir died of paralysis in middle life. Frederick T. Oldham died at the age of thirty-two after a short illness, the nature of which was not stated.

Three deaths of oarsmen occurred during the year just passed, one from old age, one from appendicitis and in the remaining one no cause of death was stated. The ages at death were respectively, eighty-five, twenty-two and fifty-five. The elderly oarsman was Dr. F. J. Furnivall, who celebrated his eighty-fourth birthday on February 4, 1909, by rowing a racing shell on the Thames from Putney to Mortlake, the course over which the Oxford-Cambridge races are rowed.

Three deaths due to the exertion of dancing occurred during the year, one a vaudeville performer, after he had finished his act, and the two others occurred in dancing schools. Two were men, thirty-five and twenty-one years of age. The waltz was the dance indulged in in two instances, one an endurance dance of four hours' duration.

Two polo players died as the result of injuries received in the game. Both were internal injuries and the extent of each was not determined. One was supposed to be a fracture of the skull, the other player dropped dead suddenly while in a mix-up.

Two cricket players died, the result of disease the particulars of which could not be ascertained. Both were in their fifty-ninth year.

Two cyclists died, one from heart disease, which was said to have been caused by over-exertion on the wheel, while the other was an accident in a race where the heart was ruptured by the rider being thrown against an electric light pole.

Two weight lifters died, one from heart disease, while the other met his death while exhibiting his prowess. The former was fifty-eight years of age, while the latter was twenty-two years.

The other deaths were equally distributed among lawn tennis players, wrestlers, swimmers and skaters. The wrestling and swimming deaths were directly due to the same, heart failure being the cause of death in the case of the swimmer, while a dislocation of the spine, resulting in paralysis killed the wrestler.

One other death was caused by high kicking, the kick being the height of eight feet, bursting of a blood vessel, producing hemorrhage and death.

Twenty-nine aviators met their death during

the year 1910, twenty-six of these were foreigners and occurred in countries outside the United States. As a rule aviators are athletes, as in the instance of Ralph Johnstone, who was on the vaudeville stage for years before he became an aviator. Johnstone performed on the wheel, jumping up stairs one step at a time and then dropping to the stage a distance of some twenty feet. All the aeronauts of old were gymnasts, for who has not seen them perform on the trapeze just before the drop in the parachute?

When the whole subject is considered it will be found that there were a great many deaths of athletes, both by disease and accident during the year 1910, almost twice as many as in 1905, and that while the mortality rate was small in most of the games and contests it was high in a few, as for example, football, baseball and pugilism. The deaths of the aviators is only what one would expect when such a sport is in the experimental stage. Many improvements will probably be made along this line, but flying, for obvious reasons, will always be dangerous to life and limb.

In the deaths from disease it will be noted that most of the mortality was caused by diseases which affect the general circulation, such as heart disease, kidney disease, hard arteries, apoplexy and paralysis. Athletes appear to be quite susceptible to infectious diseases, and when affected with infections succumb to them as readily as others. The average age at death of athletes, taking in the accidental deaths, is markedly below that of the average person in the ordinary walks of life.

The accidental deaths in baseball appear rather large, but one must remember that this past-time is indulged in by our growing boys in every open lot and on almost every city street for over seven months in the year, and that the fatalities were purely accidental and not due to any trick or maneuver in the game. Fatal blows in the heart region as well as misdirected abdominal blows are simply accidents, more or less unavoidable where so many indulge in the sport and where great force is used to send a rather hard ball from one player to another. The game cannot, in other words, be called brutal because of the occurrence of these accidents. It will be noticed that the more proficient the players are, as for example the first-class performers, the slighter are the chances of serious injury.

The twenty-three fatalities in the prize ring also appear large, but we must remember here also that boxing was indulged in very extensively during the year 1910. If boxing laws regulating the sport in certain clubs or all clubs were in force there would be fewer deaths in the ring. Large gloves, well-padded posts and proper flooring would make accidents nearly impossible and if men were examined carefully before a contest fatal cases of syncope would not occur. As a rule accidents in the roped arena occur in young men who do not excell. It may not be amiss to state that no serious injury or death has occurred in the prize ring among the top-notchers in twenty years' time, the last death being Andy Bowen, who fell, striking his head against a brick wall which was a part of a poorly constructed ring. The enthusiastic fight attendant desires to see the boxer who can hit, block and get away in preference to the pugilist who can slug and knows nothing of the finer points of the art. The average well-contested boxing bout is not considered brutal, but the average opinion about such contests is that they are brutal in the extreme. As others have said in the past there is no cleaner, manlier or more desirable sport.

Forty-six deaths of football players, thirty-three of which were directly due to the game, is an appalling number when one considers that the game is only played from six to eight weeks in the year. When one remembers that the high-class college men were nearly in excess of all others who succumbed as the result of the sport it is easy to see the difference between this past-time as compared with baseball and pugilism where the conditions are reversed. The game as played under the old rules in 1905 was the cause of a large number of deaths and serious injuries. The same may be said of the sport as played under the new rules in 1910. The dangerous features of the game were supposed to have been eliminated when mass play was prohibited. We have seen that the open play is still more fatal. Mass play is bad. Open play is bad and there are apparently no redeeming features attached to the sport. Unlike pugilism there seems to be no remedy or recommendation to offer to decrease the fatalities and injuries while the game is played in America. In England there is almost no danger in football as played in that country. Probably a little study and observation along this line will bring about improvement, but it is evident that in America the kicking game is not popular. When two opposing forces, each representing over a ton in weight, come together each force disputing every inch of the way, there are a series of collisions and serious injury is bound to be the result. If the present ratio continue one year from this time will show that thirty more young men will have perished as the result of football during the year 1911. Is such a sacrifice at all necessary? Cannot something be done to prevent this offering up of our young men's lives? Any young man who goes into a modern football game takes his life in his hands as figures will show.

Let us have games, athletics, athletes, baseball, pugilism, golf, polo, rowing, swimming, tennis, cricket, cycling, weight-lifting, wrestling, dancing, skating, aviation and all around performances, but, let us eliminate football as it is played in America at the present time.

PARALYSIS OF THE UPPER EXTREMITY DUE TO NERVE INJURIES.*

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It is not the purpose of this paper to consider all forms of nerve injuries which may produce partial or complete loss of function of the upper extremity, but rather to illustrate some usual and unusual conditions encountered by presenting the histories of a few cases. The most frequent cause of partial paralysis is probably injury to the musculo-spiral nerve. In cases of fracture of the shaft of the humerus because of the intimate relationship of this nerve to the bone it is apt to be damaged to a greater or less extent. It is possible that the nerve may be completely ruptured, but more frequently some of its fibres are torn or the nerve is caught between the fractured ends of the bone or in the callus as it forms, or is stretched over the callus if any marked bending should occur at the site of fracture. The nerve can also be injured at a point lower down, namely in the lower third of the arm. Here it is not always associated with fracture. Injury to this nerve cannot always be recognized at the time of the receipt of the fracture and indeed is usually not appreciated until repair of the bone has taken place. When the splints and dressings are then removed the characteristic wrist-drop and the inability to extend the fingers or supinate the hand are observed. Loss of sensation is likewise apparent over the lower half of the outer and anterior aspects of the arm and of the middle of the back of the forearm. The degree of damage done to the nerve will obviously determine the subsequent course of each case.

I desire to call attention to some of the features as I have seen them inasmuch as they have differed somewhat from those outlined in the accepted works on fractures. Perhaps this can be made evident by the clinical pictures presented in two cases of injury to this nerve caused by fracture of the humerus.

Case I.—Fracture of humerus with angulation; nerve not apparently damaged, but adherent to callus for distance of two inches; separation of nerve; prompt and complete recovery from paralysis.

The first case was that of a young woman, 19 years of age; a telephone operator, who was brought to me by the late Dr. J. W. Eddy, of Oswego, on April 11, 1907. She had a negative family history and had always enjoyed excellent health. On February 5, 1907, she sustained a fracture of the humerus, Dr. Eddy informed me that he had at once suspected that damage had been done to the musculo-spiral nerve because of the apparent weakness of the wrist soon after the receipt of the injury. When he brought her to me she was unable to lift her hand or indeed move it in any way. The thumb was flexed and drawn under the fingers from which position she was unable to withdraw it. She complained of numbness over the back of the hand and forearm. Upon examination of the arm a large callus was found. An x-ray picture taken by Dr. C. E. Coon showed angulation of the bone at the point of fracture and considerable callus. These findings are apparent in the radiograph.

I operated upon her April 13, 1907, making a curved incision over the humerus at the site of the deformity. I separated the fibres of the triceps muscle and had no difficulty in exposing the nerve. It was stretched over and was adherent to the callus for a distance of about two inches. It was readily separated and did not seem to be in the least damaged. The nerve was further freed for an inch above and another below the area of adhesion and a considerable portion of the callus removed. Rubber tissue drainage was introduced. As soon as the following day the patient appreciated some improvement. She was able to move the thumb almost as freely as the other fingers. The numbness had disappeared from the back of the hand. As I removed the splints in which the extremity had been placed it seemed that there was not the same degree of wrist-drop. For a few days she complained of pain along the line of the incision. In the course of three days there was further improvement in the extensor movements of the hand. Ten days after the operation we were able to note that when the arm and forearm were placed in certain positions she could hold the hand out straight. She remained in the hospital until April 28, 1907, when she returned to her home in Oswego. I did not see her again until June 11, 1908, at which time she stated to me that the improvement had been continuous from the time she left the hospital and in the course of three months she was able to resume her work. At the date of this examination it was impossible to determine that there was the slightest impairment of motion or sensation in the extremity.

That such prompt restoration of sensation occurs where the nerve has not been visibly damaged will appear in the history of another case to be subsequently related. The prompt return of motion is also in keeping with what I have seen where no apparent injury has been done to the nerve structures. However, if thickening or other change in the nerve has occurred we have not observed the same prompt improvement. This is illustrated by a case recently admitted to my hospital service and operated upon by my associate, Dr. Coon, February 27, 1911. The nerve was found stretched over the callus and the bone united at an angle. The nerve was furthermore adherent to the bony structures and sharply constricted at one point, above which it was greatly enlarged practically forming a neuroma, while below the point of constriction there

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was apparent atrophy. In this case the nerve was thoroughly freed and the wound closed with tissue drainage. Repair took place by primary union. Sensation promptly returned but the motor power of the wrist and hand are coming back very slowly. He has still a very decided wrist-drop and can flex his fingers only to a limited extent. He has but slight grasping power of the hand, although he can pick up some things with his thumb and index finger. He remains in the hospital as he continues to be quite helpless.

Case II.—Lacerated wound implicating the musculo-spiral nerve associated with scalp wound and injuries to the shoulder-joint.

My next patient presented rather an interesting surgical problem. It concerned an Italian, 32 years of age, married and a carpenter by occupation. He consulted me October 15, 1910. Five weeks previously while driving an unmanageable horse he was thrown out of a wagon and struck a tree. He sustained an injury to his head and right arm. He was attended by a physician at his home in Oswego. Since the receipt of the injury he had not been able to use the arm. When he came to me the right forearm and hand were bound up in splints. I found a scar in the occipital region 1½ inches in length and another just above the flexure of the elbow on the radial side of the arm 2 inches in length. These scars had resulted from lacerated wounds. From the date of the injury he had been unable to raise the wrist and sensation had been greatly impaired in the forearm and hand. Upon examination I found a great deal of stiffness and fixation of the corresponding shoulder. There was no evidence of dislocation nor of fracture. Here was a man who had sustained an injury to his head, shoulder and arm. None of the manifestations pointed to brain damage and we could readily exclude this area as being a factor in producing the paralysis of the forearm and hand. The question of a shoulder injury implicating a nerve had to be considered. Upon examination some fullness on the anterior surface of the right shoulder-joint was apparent. The joint was broadened so that measurement from the mid-sternal line to the greater tuberosity of the humerus was ½ inch greater than on the opposite side. The joint motion was limited so that he was unable to carry the arm upward beyond an angle of 45 degrees from the body. An attempt to force the extremity beyond this point caused pain. The deltoid was slightly wasted presumably from lack of use rather than because of an injury to the circumflex nerve. Sensation on the posterior aspect of the forearm was greatly diminished. There seemed to be an area of hyperesthesia on the inner surface, however. The posterior surface of the hand seemed greatly congested and was somewhat edematous. The conclusion seemed obvious that although there had been some injury to the soft structures surrounding the shoulder-joint the paralytic manifestations were evidently due to musculo-spiral paralysis and that the wound which he had received on the radial side of the arm just above the elbow-joint was responsible for it. Subsequently I took the patient to Dr. J. H. Burch in order that he might test the electrical reaction of the affected area. He found that the sensation of the back of the hand was not entirely lost. On the left hand he could recognize the two points of the compass when separated by ½ centimeter, on the right only at a distance of 1½ centimeters. On the posterior surface of the right forearm he could distinguish the two points at a distance of two centimeters, while on the left he recognized them when the points were separated by but one centimeter. He seemed unable to compress the dynamometer with the right hand so that the pointer moved on the dial at all. With the left, however, he was able to move it to 90 degrees. In testing the galvanic reaction it was found that the left supinator longus reacted at 17 milli amperes the right at 15. A corresponding difference existed in the extensor carpi radialis as well as the extensor communis digitorum and the triceps. The interossei also responded. In all of these muscles there was a corresponding difference in the faradic reaction. In no muscle was there any evidence of reaction of degeneration. In none was sensation or motion completely lost but was simply modified. The conclusion was therefore reached that the musculo-spiral nerve had been damaged but not severed. He was consequently referred to Dr. Kidder for electrical treatments. No improvement following their administration, the patient returned for surgical operation. It seemed wise to improve if possible the condition of the shoulder before operating on the nerve. For three weeks, therefore, Dr. J. J. Levy subjected the shoulder to treatment with dry heat, passive and resistive movements and massage. These measures greatly improved the mobility of the shoulder.

On December 6, 1910, I operated upon him at St. Joseph's Hospital. Drs. Larkin, Flaherty, Blum, Muench, Palmer and several other physicians were present. I made a horseshoe-shaped incision in the lower part of the arm with its convexity downward, the scar being placed in the center of this incision. After dissecting the flap up and cutting away the subcutaneous tissue there was no difficulty in locating the inner border of the supinator longus muscle and separating it. The musculo-spiral nerve came promptly into view as the muscle was drawn aside. That it had been badly injured was at once evident. It had not been divided. The nerve was exposed for a distance of about 2½ inches; the lower inch had a diameter of ⅛ of an inch and the upper portion was fully twice this size. For an inch and a quarter the nerve was very adherent and this was particularly the case at the point of nerve enlargement. The bleeding vessels were secured and after thoroughly freeing the nerve, it was wrapped in cargyle mem-

brane and buried in the muscular structures. The wound was closed with interrupted silkworm gut sutures and the extremity placed in a splint. Repair by first intention occurred. Two weeks after the operation he returned to his home in Oswego. There was at that time no material change in his condition. Sensation had not been greatly improved and there was no increase in the motor power. Dr. Kidder again took up the electrical treatment and this has been faithfully carried out. The following statement from the doctor dated April 12, 1911, tells of his present condition: "He has been showing progressive improvement. He was able to go to work on the 27th ultimo doing carpentry. His hand and arm were in such condition that he could handle boards and light tools and use a saw. He was, however, unable to exercise sufficient grasping force to hold a hammer in his right hand until to-day, when he used the hammer most of the day with this hand. When he first came under treatment the nutrition of the forearm was poor and there was some circulatory stasis. At present the condition of nutrition and of the circulation is practically normal."

This case also illustrates the point that when there are visible changes in a nerve as the result of injury the restoration of function will be slow. However, the return of sensation and muscular power has been more rapid than I had predicted.

To what extent the functional activity of large nerve trunks can be interrupted by an injury which has produced no visible damage to the nerve structures is well illustrated by the case I am now to report.

Case III.—Fracture of the neck of the scapula; displacement of the head of the bone; pressure upon and adhesions to the brachial plexus of nerves; complete paralysis of sensation and motion; operation; immediate improvement.

A lady, 62 years of age, was brought to me on March 8, 1911, by Dr. Bulger, of Oswego. She was married; had several children and had always enjoyed good health. At the time of her injury on Christmas, 1910, she was a robust woman. On that day she fell upon an icy sidewalk striking her right shoulder. I am informed by the patient that she was told that she had sustained a dislocated shoulder and that an effort was made to reduce the dislocation. From the date of her injury she says that she has had no sensation in the right upper extremity and that there has been complete loss of motion so that she could not move even a finger. I was able to confirm her statement as to the complete loss of motion and sensation in every part of the extremity. There was no marked wasting of the muscles, although they were all flabby. The patient was in a very nervous condition and had suffered a great deal of pain in the arm with consequent loss of sleep. She was very despondent, being possessed of the fear that the extremity would be permanently useless. Examination showed the head of the humerus to be in proper place. I advised that an x-ray picture be taken. This was made by Dr. Coon. He reported that the patient had sustained a fracture of the neck of the scapula including the coracoid process and that the head of the scapula with its glenoid fossa was twisted and carried forward. The radiograph portrays the condition. It was assumed that the paralysis had resulted from pressure of this misplaced bone upon the brachial plexus of nerves. The patient said that she had lost some fifty pounds in weight since the receipt of the injury, which she attributed entirely to her anxiety, sleeplessness and generally nervous condition. An examination of the patient was made and no organic lesion found. On the 11th of March, 1911, I operated upon her in the presence of Drs. Bulger and Flaherty and assisted by Drs. Coon and Demong. I made a "V"-shaped incision with the point directed inward and upward. The axillary space was opened. The pectoral muscles were exposed and both major and minor muscles divided. The brachial plexus was easily brought into view and carefully examined. No apparent damage had been done to it. It was exceedingly adherent, however, to the surrounding structures. This was particularly true of its relation to the scapula. I had no difficulty in freeing it from the clavicle to the humerus. The arm was moved in various directions and I found that in whatever position it was put the plexus remained free and was no longer being pressed upon. Rubber tissue was introduced for drainage and the wound closed by interrupted silkworm gut sutures. Aside from the occurrence of a very irritating urticaria to which the patient said she had always been subject, no complications occurred and repair was prompt and uneventful. Within two days of the time of her operation sensation was absolutely restored so that the patient, while she was blindfolded could definitely state which point on the arm, forearm or hand was being pinched with a tissue forceps. She complained a great deal of pain in her arm. March 16th, namely, five days after operation the patient was able to move her fingers and to carry her hand a slight distance outward as it lay upon the bed with the elbow supported. Two days later she was able to lift the arm from the bed and to move it to the right or the left. At the end of ten days she was up and about her room and as she carried her arm in a sling she kept up both active and passive movements of the extremity. Two weeks after the operation she had very free movement of her fingers and was able to lift her hand up quite readily as she sat in a chair. It is, of course, very early to predict the outcome of this case. However, it seems fair to assume that with such prompt evi-

dence of returning sensation and motion we can look for complete restoration of function.

The case illustrates first how little is required to completely put an arm out of service and rob it of its sensation and motion. Without visible injury to any of the cords making up the brachial plexus the pressure upon it and the adhesions to the surrounding structures were evidently sufficient to deprive the patient of all power of feeling or motion. On the other hand it is evident that in this class of cases the return of sensation and motion is exceedingly prompt. I anticipate that the end-result will be the same as it was in the first case of musculospiral implication referred to in this paper, where in the course of a few months the patient had full use of the extremity.

When complete division of a nerve trunk has occurred the situation with which we are confronted is an entirely different one.

The case which I am about to report not only presents the clinical features dependent upon the nerve division, but also portrays the course of events subsequent to the suture of the severed nerve and the re-establishment of its continuity and function.

Case IV.—Complete division of the fifth cervical nerve; its secondary suture; slow restoration of motion and sensation.

A young man, 27 years of age, residing in Oswego, consulted me on October 10, 1909. He was unmarried and a boilermaker by occupation. He presented a negative family history, had never been seriously sick and denied ever having had any venereal disease. Eight weeks prior, while engaged in his occupation as a boilermaker he made a misstep and fell forward in such a manner as to permit the penetration of a piece of boiler-plate into his neck. A lacerated wound was produced which subsequently became infected. Immediately upon the receipt of the injury he found his left arm motionless. Up to the time of my examination there had been no return of motion. He was unable to raise the arm or flex the forearm. He had slight motion in his little, ring and middle fingers. In the neck there was a darkly discolored scar four inches in length, of irregular outline which extended upward and outward from the posterior attachment of the sternomastoid muscle to the clavicle. There was very evident wasting of the muscles of the left scapular region as well as those of the corresponding shoulder, arm and forearm. In the course of the scar there were two very sensitive points separated from each other by a distance of over an inch. The patient was advised that an operation would be necessary, but he did not return for the same until October 27, 1909. At that time a further examination indicated that he had power to open and close his hand, but could neither pronate nor supinate it. With the extremity resting on the thigh, he seemed to be able to rotate the forearm. Measurements taken at that time of the two extremities showed that 3 inches below the tip of the olecranon the left forearm measured 9½ inches and the right 10¼. Three and a half inches below the acromion process the circumference of the left arm was 10 inches and the right 10½; 8 inches below this process the left arm measured 9 inches and the right 9¾. The circumference of the left shoulder was 15½ inches and the right 16.

I requested Dr. J. H. Burch, of Syracuse, to test the electrical sensibility and muscular reaction of the affected part. It appeared that there was an area of anæsthesia extending downward on the chest to a point two inches below the clavicle. Its termination here was along a definite horizontal line. Posteriorly the anæsthetic area reached down to a point two inches above the vertebral border of the scapula and from here downward and outward to the spine of the scapula and from the outer end of this prominence to the tip of the acromion process. Sensation of the arm was abolished anteriorly to a point 6¾ inches below the tip of the acromion, while posteriorly sensibility was modified but not lost. Neither the deltoid nor the trapexius muscle reacted to the faradic current. There was no reaction in the supra or infra spinatus muscles nor in the biceps or coraco-brachialis muscles. There was some reaction in the teres minor, brachialis anticus, teres major, triceps and pectoralis major and minor. In all of the muscles which failed to respond to the faradic current there was evident reaction of degeneration. The rhomboid muscles showed a sluggish faradic reaction but no reaction of degeneration. The sternomastoid was normal in its response. After carefully reviewing the results of this examination we concluded that there had been a division of the fifth cervical nerve at or near the point where it joined the sixth nerve to make the first cord of the brachial plexus, namely very close to its emergence from the scaleni muscles. It was noted that pressure upon the lower one of the sensitive points in the scar produced a peculiar sensation which extended down the arm; while pressure upon the upper one caused pain which extended to the back of the shoulder.

On the 29th of October, 1909, I operated upon this patient. There were present Drs. Coon, Larkin, Wiseman, Totman, Flaherty, Miller, Demong and Buechler. I made an incision parallel to the posterior border of the sternomastoid muscle and freely separated the skin and subcutaneous fascia. The external jugular vein was found considerably enlarged and being directly in the line of operative procedure was doubly ligated and severed. The scar tissue was very dense contained a number of enlarged glands and was freely dissected away. The distal end of the fifth cervical nerve was found to be considerably enlarged and reddened. There was no difficulty in

locating the proximal end of the nerve which was found to be in a similar condition. Both nerve ends were freely exposed and sufficient tissue was cut away so that they could be readily brought together. By flexing the forearm and carrying the hand to the opposite shoulder additional relaxation of the parts was secured. The nerve ends were next united by six sutures of fine kangaroo tendon which were carried through the sheath of the nerve. The nerve ends were not freshened until the sutures were about to be tied. The reunited nerve was then buried in the scaleni muscles by three sutures. Additional retention sutures were placed above and below. The surface wound was closed with interrupted silkworm gut sutures and rubber tissue drainage introduced. The extremity was held in the flexed position mentioned by means of a Velpeau bandage. Upon the day following the operation the patient vomited continuously and an examination of the urine showed that this was probably due to acetone poisoning. There was no febrile reaction. The patient insisted that some sensation had returned to the extremity within twenty-four hours; that he could feel anything which might be drawn across the back of his hand and that he experienced a different sensation when he rubbed his fingers against each other than he had before. When the dressings were changed he complained of an intense pain in the back of his neck as if his neck would break. This continued for four days. The wound healed by first intention. On the sixth day the sutures were removed and the patient was allowed to be up and about. The extremity was held immovable by a Velpeau bandage until he left the hospital, November 14, 1909, when it was transferred to a sling. At that time there was very marked improvement in sensation and the anæsthetic area was reduced two-thirds. Upon his return to Oswego, Dr. Kidder began the use of electricity. This treatment has been carried out faithfully and has not been as yet entirely discontinued. He employed the galvanic current using an ample and very wet sponge which he placed over the vertebræ at the back of the neck while an electrode with a smaller sponge was applied to the electro-sensitive points of the affected extremity. At first it required a very harsh current to secure a response. During the first six months he received daily treatments. After a time muscular contraction was secured on the make of the current. Sometimes it was necessary to produce a number of makes and breaks ranging from five to thirty before the contractions would commence. Apparently for weeks the treatment seemed to be fruitless in its result but in the end the electrical responses rewarded the effort. At no treatment was the number of makes and breaks of the current less than 500. After the first evidence of improvement there was never a fortnight but that further improvement could be noted. The gain in the deltoid muscle was the first to be observed and was in the beginning most rapid, although last fall there seemed to be evident retrogression in this muscle. It was noticed that quite uniformly, sensation would return before the underlying muscle showed any improvement. At times this sensitiveness would be so great as to interfere with a treatment. The patient was given a faradic battery which he used at home and in addition he used an arrangement of pulleys whereby he developed the muscular movements of his wrist, arm and shoulder.

He returned to me for observation on different occasions. On the 15th of December, 1909—one month after his return home—I found that he was able to close the hand more firmly. There was a slight decrease also in the extent of the anæsthetic area. Four months later, namely, six months after the performance of the operation, sensation was quite completely restored. At that time he was able to swing his arm forward and upward. The strength of the left hand had greatly increased. With the right he was able to compress the dynamometer to 90 degrees, with the left it measured 50. None of the movements of the arm, however, had been restored. On the 16th of September, 1910, when he next visited me there was very marked improvement. He was able to carry the arm upward and forward. He was no longer obliged to fling it about as if it were a flail but was able to carry it toward the opposite shoulder by deliberate muscular movements.

A letter received from Dr. Kidder dated April 12, 1911, states that he is still giving the patient one galvanic treatment a week. There has been, he writes, steady improvement in the muscular control and the improvement has been in the same definite ratio which has been evident during the past fifteen months. Sensation is normal except over the posterior surface of the thumb. For a time sensation was abnormally acute in places but this is no longer the case. The deltoid muscle is now showing some sensitiveness to the current. It possesses some ability to contract voluntarily but will not as yet raise the arm. The posterior muscular fibres respond better than the anterior, The teres and subscapular muscles are not possessed of the normal innervation and do not voluntarily co-ordinate with the deltoid. Apparently the muscles which have been most tardy in showing improvement have been those supplied by the middle cord of the plexus. The general nutrition of the arm and shoulder is now good and the individual muscles stand out clearly defined. The patient can readily and forcefully flex his forearm on the arm and having so flexed it can hold it against a vigorous pull.

He is working daily and has been for many months.

A few remarks might be in place as to the results attending nerve suture. If a nerve be repaired soon after its division has occurred the operation is called primary suture. If it be done at a later date it is spoken of as secondary suturing. It would be natural to assume that primary suture would be attended by better immediate and more satisfactory end-results. Experience, however, has not proven this to be true. If the muscular tone of the affected part has been maintained by the use of electricity, massage passive movements and similar measures there is practically no difference in the result to be secured whether the suture be done at once or at a subsequent period. Immediate suture has not the unqualified endorsement of surgeons with large experience in nerve surgery. Victor Horsley makes the statement that where clean division of a nerve has occurred and the wound has healed by first intention its suture should not be undertaken until at least eighteen months have elapsed and every effort has been made to secure restoration of function without operation. On the other hand, if suppuration has occurred in the wound and repair has been by granulation the spontaneous regeneration of the divided nerve is not to be expected. Such cases always require a secondary operation. In the return of functional activity after nerve suture much depends upon the degree of atrophy of the affected muscles. If this has advanced to a marked degree the period of recovery is always greatly prolonged. It is evident that after the operation of nerve suture, healing by first intention is essential. It is equally important that the sutured nerve should not be subjected to the danger of adhesion formation. The cases embodied in this paper make it very clear that adhesions can completely deprive a nerve of its functional activity even when the vitality of the nerve has not been otherwise impaired. To avoid this complication the implantation of the nerve in a muscular bed or its envelopment in cargyle membrane seem to me most efficient. It is not within the province of this paper to discuss the various operative procedures of nerve splicing, grafting or other measures to be resorted to when nerve ends cannot be approximated otherwise.

Our last case illustrates in a most emphatic manner the importance and great value of the after treatment in these cases. Where a nerve has been simply stretched over or caught between fragments of bone or entangled in a callus or bound down by adhesions and where no visible damage to the nerve substance has occurred it can be readily seen from the cases presented in this paper that the return of functional activity is prompt and satisfactory without the energetic and long continued use of such therapeutic measures as electricity, massage, hydrotherapy or the like. But when a nerve has been evidently damaged and most certainly when it has been completely severed the after-treatment is quite as important to the restoration of its function as is the surgical operation which seeks to remedy the local damage done. It must also be thoroughly understood that whether primary or secondary suture has been undertaken the long continued application of these measures will be found necessary. Many months may elapse without apparent improvement. The treatment must not be abandoned. The end result will well reward the effort.

Secondary suture has been performed as late as nine, eleven and fourteen years after the receipt of the injury and marked benefit has attended the surgical treatment.

ACUTE UNILATERAL HEMATOGENOUS SEPTIC INFECTION OF THE KIDNEY.*

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ACUTE hematogenous infections of organs other than the kidney are not rare. The acute infection of the pleural cavities known as empyema is perhaps the most common. The hematogenous infection is not however to be confounded with the lympathic ascending infection which is secondary to septic processes in the upper abdomen. Hematogenous infections of the parotids are also quite common and are often the result of septic emboli conveyed from distant foci of infection, as for instance those which occur within the abdomen. Unlike the secondary empyemas the parotid infections are not lymphatic but on the contrary travel by the blood stream. Typhoid infections of the parotid and other structures are again examples of hematogenous infections which strike at a distance from the primary focus. All these infections originate, probably, somewhat as follows: A phlebitis of septic origin occurs at the original source of infection, chiefly in the venous radicles. A few minute bacterial emboli are swept into the circulation and lodging, in the lungs, we have a septic pneumonia either with abscess formation or resolution; in the parotid, and we have a septic parotitis, in a joint or joints and we have a septic arthritis. All this, entirely independent of a pre-exciting endocarditis. When the latter, however, results from the pre-exciting primary focus, then we have a general pyæmia, multiple emboli and usually death.

The hematogenous infections which have been mentioned have all been preceded by quite

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definite infections in other parts of the body. Quite the contrary has been true of the cases of hematogenous infection of the kidney. Theoretically of course, a source of infection must exist somewhere, but in the cases reported by Brewer and Cabot, quite frequently there is no clue to a preceding infection in the history. The proximity of the kidneys to the intestinal tract lying behind and in contact with the peritoneum suggests a route by which infection is possible, although there is no connection between the arterial circulation of the kidney and the blood supply of the perirenal connective tissue. A possible path of infection may be the lymphatics since the lymphatic vessels of the kidney terminate in the lumbar glands which in turn receive the lymphatics from the descending colon and rectum. An infection traveling by this path would not however strictly speaking, be hematogenous, but rather lymphatic. The fact, however, that these bacterial infarcts of the kidney frequently occur without obvious antecedent infection has contributed to make the disease difficult to recognize since its origin is insidious, the structures concerned deep seated and not easily palpable. Moreover as 80 per cent. of these cases have occurred on the right side, on account of the right-sided pain and tenderness they have been mistaken not infrequently for appendicitis, and in one case which the writer saw, the physician in attendance at first suspected typhoid fever. This particular case is quite characteristic and illustrates the difficulty which the attendant has in recognizing these cases early. A lady of 56 years of age in previous good health was seen by her physician on October 10, 1908. She complained of general malaise and slight fever which continued until October 18th, when her temperature rose to 104, pulse 118. On the following day her temperature fell, averaging throughout, 101. On October 20th, the temperature became normal. So far the symptoms had been those of a continued fever and until the temperature fell to normal her physician suspected either a typhoid or a paratyphoid. The urine had been examined from time to time with negative results. On October 22d, her temperature again rose, reaching 103 at night, and dropping on the morning of the 23d to 102. Frequent examinations of the urine were made and now pus cells began to appear in the field with occasional clumping and now and then a pus cast. Some tenderness was felt in the left costovertebral angle. A diagnosis of pyelitis was made and urotropin was administered. Three leucocyte counts had been made which were inconclusive, the highest count being but 9,500. At times the tenderness in the left renal region was marked and the patient complained of abdominal pain. Also that a deep breath was painful. Gradually the symptoms decreased and for several days the case appeared to be clearing up. On November 4th, however her temperature dropped to 96 rectal and she had a severe rigor followed by sweating, after which the temperature rose to 105. The writer was now called in consultation. Examination of the patient showed some abdominal distention, with moderate general tenderness. The left costovertebral angle was very tender and the kidney could be palpated. It was both enlarged and tender while sensation in the right costovertebral angle was normal, nor could the right kidney be felt. The writer expressed the opinion that the patient was suffering from acute unilateral infection of the left kidney and advised immediate operation, in view of the chill of the preceding evening and the previous history of the case. Operation was accepted and on exposure of the left kidney it was found to be much enlarged and contained numerous indurated areas, dark in color, on its surface. It was removed without splitting, in order to avoid a possible wound infection. The cut in the loin was closed with a small drain. The morning following the operation the temperature was 99 and the patient made a rapid recovery from the operation. On splitting the kidney and making parallel sections, it was found to be the seat of numerous abscesses varying from a pin's head to the size of a large pea. There were also numerous areas of punctate redness which were evidently beginning abscesses. No leucocyte count was made immediately prior to operation, but if made it would have undoubtedly been high.

In discussing this case we are at once struck with the rather long prodromal history and we are naturally tempted to suspect that prior to the discovery of the pus in the urine this might have been a case of intestinal auto-intoxication; that the lymphatics of the descending colon became infected from the bowel and that the renal lesion was simply the result of an ascending lymphangitis. The history however is rather long for an auto-intoxication and one can only conjecture the source of the contagion.

Another case somewhat similar involved the right kidney. It also occurred in the person of a lady 55 years of age. For several weeks the patient had suffered with moderate vesical tenesmus, polyuria and pyuria, the amount of pus varying from time to time, sometimes quite slight in amount, again occurring in much larger quantity. At first the temperature was normal or only slightly above the normal. Treatment with diuretics, triticum repens and urotropin relieved her symptoms temporarily and the urine would clear up only to become cloudy again on the omission of treatment. Her general condition was not good, suffering as she did from tachycardia, anorexia and insomnia. About a week before the writer saw her in consultation, she began to have chills, increased fever and pain in the region of the

right kidney and at the costovertebral angle, with increased tachycardia and great restlessness. The pain became progressively worse together with all the other symptoms and the writer then saw her in consultation. A diagnosis of unilateral hematogenous infection of the right kidney was made and operation advised and accepted. The kidney was brought out on the loin and split open for inspection. An area of multiple abscesses was found in the cortex, the abscesses being about the size of BB shot and extending downward into the upper third of the malpighian pyramid. Conservative surgery did not seem to be indicated and the kidney with about a third of the ureter was removed. Colon bacilli were recovered from the abscesses and also the renal veins.

These two cases are the only instances which the writer has met of this somewhat rare disease in the course of a busy surgical practice in three large hospitals. They cannot be very common since Cobb says that the records of the Mass. Gen. Hospital from 1883 to 1903 show only four cases of operation for undoubted hermatogenous infection of the kidney occurring while the individual was in good health. A. B. Johnson in analyzing all the cases of surgery of the kidney for eight years preceding October 1, 1898, found but 12 cases operated upon for abscess of the kidney. Of these, in only three was it probable that acute hematogenous infection of the kidney had been the origin of the abscess. There are less than 50 cases on record at the present time. It is important, however, to remember that these cases are very fatal unless recognized and treated with prompt surgical intervention. How shall they be recognized by the general practitioner when the surgeon of large hospital practice sees so few of them. There is one symptom which is pathognomonic and which is never absent, pain and tenderness in the costovertebral angle. When in addition to this symptom pus and occasional blood cells are discovered in the urine, with the additional symptoms of sepsis, and a high leucocyte count a confident diagnosis of this affection may be made. The contiguity of the affected kidney to the peritoneum gives rise to peritonism with general abdominal pain, tenderness and distention. When the right kidney is affected, the disease may be mistaken for appendicitis or perforating ulcer and the abdomen opened. This happened respectively on two cases reported by Cobb, the error in diagnosis having been discovered after the abdomen was opened. In one case the incision was closed and the kidney removed by the lumbar route. In the second case Harrington removed the kidney by the transperitoneal route. There is serious risk of infecting the peritoneal cavity by the latter method and it should never be used. It is much better to close the anterior incision and to proceed with the nephrectomy by the usual method.

Conservative surgery is entirely out of place in this disease. In all those cases in which a simple nephrotomy and drainage was done, death resulted, but the total nephrectomies did well. The reason for this is plain. A nephrotomy reveals but one plane of the affected organ and drains only the abscesses in that plane, whereas, it is a fact that the infection is widespread and can only be effectively treated by total removal. This was well shown in the first case reported, in which the entire kidney was riddled with abscesses in all stages of formation, from the point redness of the primary bacterial embolus to the full-formed abscess. The bacteriological source of infection is almost always the colon bacillus. This was true of all of Cobb's cases and also of the writer's. In one of Brewer's cases, the infecting organism proved to be the golden staphylococcus. In reviewing the history of the two cases of which the histories have been recounted, the slow and insidious invasion is particularly noticeable. In the first case there was nothing whatever to call attention to the genito-urinary tract. In the presence of a negative Widal, for at least two weeks one would have been justified in believing that the infection was either a typhoid with a delayed Widal or else belonged to the paratyphoid group. There was at no time any evidence of infection which could be traced to its anatomical seat. The urine was examined with painstaking care and for days was entirely negative. The pathognomonic symptom which has been mentioned, pain and tenderness in the costovertebral angle did not make its appearance until the illness had lasted for over two weeks. On its appearance, however, the symptom complex, characteristic of the disease rapidly declared itself. The early stages of the second case were certainly those of an ordinary colon cystitis, the type which constitutes 95 per cent. of that disease. The infecting organism here certainly reached the kidney by the blood current since the blood vessels of the bladder communicate with the kidney, both by way of the utero-ovarian and ureteral systems as well as through the general circulation. The infection in this case was by one of these channels and not an ascending infection along the ureter since there was no evidence of a pyelitis, when the kidney was sectioned. Moreover, as in all these cases the abscesses were in the cortex, whereas in the cases of nephropyelitis the opposite is true, the disease advancing from the pelvis by way of the renal calices.

These cases represent those of medium severity, characterized by rather slow onset. It will be noticed, however, that the septic symptoms when they did appear, were of such severity as to threaten the life of the patient. There have, however, been a number of cases which may be called fulminating, in which observers as experienced as Cobb, Brewer and Harrington, have been deceived into opening the abdomen on the

supposition that they were dealing with an intraperitoneal lesion. Indeed, Cobb says that this type of the disease cannot always be differentiated without an exploratory incision. The writer is inclined to doubt this and is of the opinion that in the cases mentioned the operators were thrown off their guard by the severity of the abdominal symptoms, and neglected to examine the costovertebral angle and the urine. This is not said by way of criticism. There are, however, limits to perspicacity in dealing with so complex an organism as the human body. The writer has stated that he believes operation to be the safe remedy against these conditions. In a mild case in which the diagnosis has been made by the pus in the urine in microscopic quantity by the tender costovertebral angle and the tender kidney if palpable, it is certainly allowable to try the use of a colon vaccine in the hope of improvement. Billings and McArthur, of Chicago, have reported good results in other colon infections of the genito-urinary tract and the writer has had some experience in that direction, though not entirely satisfactory. The experiment might be worth trying, in the absence of severe septic symptoms. It should be remembered, however, that where actual evidence of sepsis, as indicated by chills, high temperature, etc., does appear, that the time to temporize has gone by and resort to surgery should be prompt. It is astonishing to see how severe the symptoms which result from quite small collections of pus. An ordinary boil will contain more pus than a whole collection of these small foci in the renal cortex. Relief is correspondingly prompt and permanent on removal of the offending organ.

EXTRAGENITAL CHANCRE.*

By FREDERIC J. RESSEGUIE, M.D.,
SARATOGA SPRINGS, N. Y.

THE importance of making an early and correct diagnosis of extragenital chancre can hardly be overestimated; and fortunately in most cases it is not difficult. The more frequent a subject is brought to one's attention the more familiar it becomes, and if presenting a report of several cases that have come under my observation should need any apology, this would be ample; for it is a fact that the profession does not as yet, seem to appreciate the frequency of this condition.

Montgomery[1] states that 5.5 per cent. of his cases of syphilis were of extragenital origin, or 67 out of a total of 1,217. Buckley of New York gives the same percentage, 5.5 per cent., or 113 extragenital in 2,000 cases. Fournier's statistics show that 6.33 per cent. of his total cases of chancre were of extragenital location. While out of 887 cases of primary syphilis occurring among women in his private practice, 45 or 5.07 per cent. of the initial lesions were extragenitally situated.

Case 1. A motorman, aged 31. Consulted me for a sore on his chin which appeared about ten days previously, and which he believed was barber's itch. The sore began as a pimple which had increased slowly in size, and would not heal. It was at this time ¼-inch in diameter, had clean-cut edges, slightly elevated and indurated, and occupied a position just to left of median line of chin, about ½-inch below vermilion border of lip. One submaxillary gland was enlarged. Secondaries appeared 32 days later and diagnosis confirmed.

The mode of infection was undoubtedly direct, as patient admitted numberless exposures to a syphilitic prostitute.

Case 2. A young married woman, aged 26. She had a small sore near right nipple in superior internal quadrant. First noticed it the previous day while using a coarse towel after a bath. Two days later the sore had increased somewhat in size, and had the appearance of a shallow ulcer, There was some slight secretion, but no tendency toward healing. Some induration appeared during the second week, but no glandular enlargement was at any time evident. The sore gave but little trouble and was never larger than a dime. She presented on the 29th day an universal papular eruption; no objective or subjective symptoms referable to throat. She returned to her home in New York, at this time, and was referred to the late Dr. W. E. Swan, who reported pharyngitis and mucous patches three weeks later.

Mode of infection: This patient was eminently respectable, and the source of contagion is problematical. The husband was free from the disease. The patient stated that a laundress in her employ had had a large sore for some weeks near each elbow, and she was inclined to believe infection had occurred through habitually employing brisk rubbing of her body with an infected towel. It seemed more probable that the infection occurred in a more direct way.

Case 3. A coachman, aged 26. This case is not, strictly speaking, extragenital—though the location was so unusual that it will bear reporting. He had a hard, markedly indurated, sore, size of a quarter, on anterior surface of scrotum, near lower border, covered with a dirty greyish membrane, with a few granulations showing through here and there. He complained of pains in the legs and groin, and had numerous small hard glands in both groins. The sore first appeared three weeks ago, and had been dressed several times by a physician who had informed him that he had eczema, and had poisoned himself by scratching. I could agree with the latter

*Read before the Medical Society of the County of Saratoga, at Saratoga Springs, March 29, 1911.

[1] *Journal Am. Med. Assoc.*, May 5, 1906. Quoted by Knowles.

part of the statement only. Typical secondaries appeared three weeks later.

Mode of infection was doubtless direct. The patient admitted frequent exposures, and was unable to state with any degree of authority when infection may have occurred.

Case 4. A married woman, aged 27. This patient consulted me for a sore throat which she had been treating with home remedies for three or four weeks. Swallowing was extremely painful, and for two days past had been unable to eat but little. Examination revealed a marked hyperemia of pharynx and tonsils. The left tonsil was large, and just above and anterior to crypt was a shallow ulcer, sharply marginate, with base elevated and indurated. The post-cervical glands both sides were some enlarged. Four weeks later, or between seven and eight weeks from the beginning of the sore throat, there appeared a copper-colored macular and papular rash over chest, abdomen and back. She was somewhat skeptical of my diagnosis, and insisted upon seeing a specialist. She consulted Dr. Sautter of Albany, who confirmed my diagnosis of chancre of tonsil. The chancre persisted for nearly nine weeks.

Mode of infection: This patient resided in a neighboring village, and had been living apart from her husband for two years. In spite of frequent and careful questioning, I was unable to obtain any history that would throw any light upon how or when the infection may have occurred.

Case 5. A single woman, aged 33. Had a sore on superior surface of upper lip, mesially located, about the size of a dime. The condition first appeared three weeks ago. In spite of the size of the sore and its persistency, this was mistaken for a cold sore, and the patient sought advice as she had been informed by members of her family that she had poisoned it with her finger nails. The sore showed some granulations, was elevated, and projected anteriorly as a result of a markedly indurated base. The lip was considerably swollen, and some cervical and submaxillary glands were enlarged. Secondary symptoms appeared sixteen days later.

Mode of infection: Patient states she has a "gentleman" friend who has had sore throat for some weeks; assuming his trouble to be leutic, she has had numerous opportunities for lip infection, as she admits frequent kissing for several months previously.

Case 6. A young lady, aged 21. The history and objective symptoms are practically the same as in the previous case. The sore is on the lower lip, just to right of median line, and about the same size and character of foregoing; and which appeared, she thinks about five weeks ago. She was not so much concerned about the sore as she was about a rash which appeared a day or two before. This was a macular eruption and covered neck, chest, abdomen and back. The throat was normal at this examination, but the sore throat and patches appeared a few days later.

Mode of infection in this case seemed to be direct. At least the period of incubation corresponds to a period during which a race-track follower was rooming at patient's home, and she stated that he "occasionally" kissed her. He may, or may not have had syphilis.

Case 7. A merchant, aged 40. This case came under observation about one month ago. He noticed a sore on vermilion border of upper lip, near left angle, four weeks before. This occasioned no suspicions in his mind, as the sore was small and painless, and readily passed for a cold sore. It has grown slightly larger in the past few days. The sore was small, about the size of a split-pea, edges sharply marginate, and covered with "beefy" granulations except one small portion which presents a thin cream-colored membrane, which is flush with the normal mucous membrane. Very little swelling of the lip; slight elevation and induration. No palpable glands. Two weeks later, six weeks from first appearance of sore, he developed pharyngitis, and patches on side, under surface, and frenum of tongue, and on inner surface of cheek, near angle of jaw. There was also moderate alopecia. At the first examination he denied having had any rash. On cross-examination at this visit, however, he readily assented to the fact that he had a skin eruption on chest, abdomen, back and arms, two weeks previously, but had misunderstood the meaning of my question relating to eruption on his first visit. The sore remained until one week ago.

Mode of infection: The patient states that he has a "lady friend" who has had quite a severe and apparently intractable sore throat and mouth, and who was receiving treatment for gastritis. He was somewhat surprised to learn that her "gastritis" was contagious.

I have had several other cases of undoubted chancres, situated extragenitally, which were seen but once, or passed from observation before the diagnosis could be established by the appearance of secondary symptoms.

THE HYDROTHERAPEUTIC TREATMENT OF CHRONIC DISEASE OF THE HEART.*

By JOHN M. SWAN, M.D.,
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DURING the past twenty years a gradual change has been taking place in the therapeutic methods of the medical profession. The pure drug therapy of the nineteenth century has been very extensively complemented by the employment of sera, organ extracts, bacterial

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vaccines, hydrotherapeutic and mechanotherapeutic methods.

In the treatment of chronic disease of the heart, following the lead of the German and French physicians, particularly those who practice at Nauheim, the value of carbonated brine baths has become a matter of common knowledge. In many hospitals and hydrotherapeutic institutes in the large cities, artificially prepared brines charged with carbon dioxid are used in the treatment of cardiac disease with much benefit.

At the Glen Springs a natural brine is used in the treatment of these diseases which has the following composition; according to an analysis made in 1910 by Professor E. M. Chamot, of Cornell University.

	Grams per Liter
Total Solids	213.8
Loss on Ignition	38.6
Silica	0.79
Oxides of Iron and Aluminum	0.03
Calcium (Ca)	14.9
Barium (Ba)	0.03
Magnesium (Mg)	4.2
Nitrogen (N) as NH_4	0.85
Sodium (Na)	47.3
Potassium (K)	0.008
Lithium	Trace
Chlorine	111.0
Carbonic Acid (CO_2) half-bound	0.01
Carbonic Acid (CO_2) free	0.17
Sulphuric Acid (SO_3)	Trace
Total Solid Residue	213.8
Organic and Volatile Matter	38.6
Colloidal Matter	0.8
Calcium Chloride (Strontium Chloride)	41.2
Magnesium Chloride	16.3
Barium Chloride	0.025
Barium Bicarbonate	0.056
Ammonium Chloride	3.2
Sodium Chloride	120.0
Potassium Chloride	0.015
Lithium Chloride	Trace
Sulphates	Trace
Carbon Dioxide in Solution	0.17

This brine is obtained from an artesian well 1,500 feet deep. It contains 12 per cent. of sodium chlorid and 4.12 per cent. calcium chlorid.

For the purpose of administering the carbonated brine baths the undiluted water as it is pumped from the well is much too strong, so that it is diluted with five volumes of fresh water, giving a brine containing 2.0 per cent. sodium chlorid and 0.68 per cent. calcium chlorid.

Five series of baths are employed. The first series is composed of two baths of the diluted brine without gas.

The second series is composed of four baths of diluted brine, into each of which 3,702 cubic inches of carbon dioxid gas are liberated.

The third series is composed of four baths of diluted brine, into each of which 6,664 cubic inches of carbon dioxid gas are liberated.

The fourth series is composed of four baths of diluted brine, into each of which 8,884 cubic inches of carbon dioxid are liberated.

The fifth series is composed of four baths of diluted brine, into each of which 17,720 cubic inches of carbon dioxid gas are liberated.

The first series of baths is given at a temperature of 98 deg. to 94 deg. F.; the second at 96 deg. to 92 deg. F.; the third at 94 deg. to 90 deg. F.; the fourth at 92 deg. to 88 deg. F.; and the fifth at 90 deg. to 85 deg. F.

The bath is prepared and the patient is assisted into the tub, lying at full length, with his head supported on a folded towel. The duration of the bath varies from five to fifteen minutes, during which the patient lies perfectly quiet in the water. At the end of the bath the patient is assisted to rise and is carefully dried by an attendant with warm towels. He is then given a cup of warm broth and put to bed to rest for an hour.

The baths are given on alternate days, so that the complete course requires six weeks.

The carbonated brine baths in suitable cases of cardiac disease produce the following effects: (1) a diminution in the size of the heart, (2) a slowing of the pulse, (3) a slowing of the respiration, (4) reddening of the skin on account of the dilation of the smaller blood vessels in the *cutis vera*, (5) reduction in the size of a congested liver, (6) increased flow of urine.

These results are due, in all liklihood, to the influence of the baths on the cutaneous circulation. The amount of blood in the skin is increased, the blood vessels of the skin are enlarged in caliber, and, as a result, the heart is relieved of impediment in satisfying the demand of the circulation, so that the blood flow is equalized in the viscera.

The diminution in the size of the dilated heart is a fact admitted by all who have watched the treatment as done in the various hydrotherapeutic establishments in different parts of the world. It is, however, only cases in which there is dilation of one or more of the chambers of the heart in which this reduction of size follows the employment of the carbonated brine baths. It is manifestly undesirable to reduce the amount of hypertrophy, which is a compensatory phenomenon brought about by resistance to the flow of blood in the peripheral circulation, or by the altered conditions within the heart, the result of defective valve action.

The slowing of the pulse and of the respiration is a phenomenon that is well known and which can be readily demonstrated by systematic observations of the pulse rate before, during, and after each hydrotherapeutic treatment. The reduction in the size of a congested liver is explained by the equalizing influence of the baths on the distribution of the mass of blood in the cutaneous and visceral vessels.

The treatment is indicated in all conditions in which there is a failure on the part of the myocardium to perform its function normally. In the cases of cardiac weakness following the acute infectious diseases, such as typhoid fever, influenza, and diphtheria.

In cases of debilitating and wasting diseases in which there is evidence of myocardial insufficiency; such as severe hemorrhages, severe secondary anemias, pernicious anemia, and diabetes. Of course, no claim is made that the baths will cure pernicious anemia or diabetes; but the improvement in the circulation resulting from a course of carbonated brine baths will add greatly to the comfort of the patients suffering from these serious disturbances.

In cases of cardiac weakness following surgical operations, depending upon prolonged etherization, infection of the wound and consequent suppuration, or previous subacute or chronic infections, such as cholecystitis.

In the failure of compensation in chronic valvular disease with its resulting dyspnea, palpitation, cough, slight blood-tinged expectoration, vertigo, etc. In cases of chronic valvulitis in which one attack of broken compensation has been cured a course of carbonated brine baths with the usual sanitarium régime once a year may act as a preventative of further attacks of lost compensation for an indefinite period.

In this connection I should like to refer to a notion that appears to be somewhat popular among patients, if not among physicians, that the hydrotherapeutic course will be followed by the disappearance of an organic murmur. No treatment known to the medical profession will restore a sclerosed and deformed valve to its normal state. In such cases the treatment ought to bring out the murmur more strongly and increase the definiteness of its transmission, on account of the improved function of the myocardium, and its resulting increased powerful contractions. On the other hand, a murmur dependent upon the stretching of an orifice should disappear after the treatment on account of the improvement in the muscular tone and the lessening of dilation.

In cases of simple dilation the result of sudden strain and prolonged overwork the course of baths should be followed by the disappearance of the symptoms, disappearance of a murmur dependent upon the dilation of an orifice, and a reduction in the size of the heart.

In cases of cardiac neurosis, the baths sometimes fail to produce benefit and sometimes succeed in relieving the symptoms. In cases of paroxysmal tachycardia, the result of toxic influence, no benefit is to be expected from the hydrotherapeutic course unless the toxic cause be first removed.

In cases of fibroid myocarditis with general arteriosclerosis and high blood pressure, the carbonated brine baths must be carefully watched. In some instances they are accompanied by symptomatic improvement and lowering of the blood pressure; in other cases the symptoms increase and the blood pressure is increased. In the latter cases the baths should be stopped. I am in accord with Bishop (Heart Disease and Blood-Pressure, 1909) in the opinion that cases of fibroid myocarditis with high pressure should not be treated with cold baths. I prefer the weaker brines, at body temperature or at 100 degrees F., and I believe they are best given without the addition of the carbon dioxid.

Carbonated brine baths are positively contraindicated in cases of nephritis, aneurysm, and advanced arteriosclerosis. In a case of valvulitis with lost compensation and albuminuria with casts no carbonated brine baths should be advised until eliminative measures have shown that the renal condition can be controlled. In this connection I think it is important to have daily reports of the total urinary output with a quantitative estimation of the albumin and a careful record of the kind and number of casts. If these examinations show a proper amount of urinary output, 1,500 c.c. or over, with a diminishing albumin excretion and a diminution in the number of casts, the brine baths may be begun, using the weaker dilutions, warm, 98 deg. F. to 100 deg. F. and preferably without gas. These baths may be alternated with the eliminative measures.

Accessory hydrotherapeutic and mechanotherapeutic methods to the carbonated brine baths are brine vapor baths, salt rubs, oil rubs, alcohol rubs, general massage, warm brine baths, resistance exercises and hill climbing exercises.

The brine vapor bath is of benefit in cases of subacute and chronic bronchitis, and pulmonary congestion complicating cardiac disease. The patient reclines in a steamer chair, in a room filled with steam into which the brine is vaporized. The finely divided particles of brine impregnate the steam and are drawn well into the bronchial tree.

The salt rub, the oil rub, and the alcohol rub are of value in cases in which the skin is relaxed and oily and when acne is a complicating feature. They are also of value in relieving the itching that sometimes follows the use of the salt water.

The value of general massage in improving the circulation in the muscles and the skin is well known. In a patient who cannot walk, general massage is the important complement to voluntary muscular exercise.

Brine baths at a temperature of 98 deg. F. to 100 deg. F. have an important sedative influence on the nervous symptoms accompanying broken compensation. They should never be given so hot as to produce sweating and should not be continued long enough to produce exhaustion or depression.

The resistance exercises are given on the alternate days with the brine baths. They consist of slowly executed simple movements of

the arms and legs carried out against resistance of varying degree applied by the operator.

The patient with myocardial degeneration does better on the carbonated baths alone for the first two weeks, after which the resistance exercises may be added to the treatment. The best results are obtained, however, if the patient defers the beginning of his resistance exercises until the carbonated brine baths are completed. The Oertel hill-climbing exercises are taken on paths which are measured and graded, so that the elevation that the patient reaches and the distance that he walks can be accurately prescribed in each case. Such exercises are begun only after the heart has begun to recover its tone as the result of the baths and the accessory treatments. The patient should never be allowed to take a grade that produces dyspnea or fatigue.

While the patient is under treatment he is advised to eat a simple, nutritious diet represented by the following list:

Milk or buttermilk, two pints a day.

Zwieback, whole wheat bread, graham bread, or buttered or milk toast.

Soft boiled eggs, poached eggs, scrambled eggs.

Roast beef, lamb, mutton, chicken or turkey.

Broiled steak or chops.

Baked, broiled or boiled fish without sauce, but no fried fish.

Spinach, string beans, tomatoes, oyster plant, boiled rice, baked potatoes, stewed celery, endives, peas, asparagus, cauliflower, lettuce with Mayonnaise or French dressing.

Cream cheese.

Rice pudding, baked custard, tapioca, corn starch pudding, ice cream, stewed prunes, apple sauce, baked apple, preserved peaches, stewed figs.

The patient should not eat:

Fried food of any kind.

Hot bread or griddle cakes.

Goose, duck or guinea hen.

Pork or veal in any form.

Rhubarb, cabbage, parsnips, turnips, carrots.

Salt or smoked fish.

Cheese, except cream cheese as already specified.

Fancy desserts.

Entrees.

The following is a sample routine for a case of heart disease in which the patient is not of necessity confined to bed, as used at The Glen Springs. The patient rises at seven o'clock and, after leisurely dressing, has his breakfast at eight. After breakfast he consults his physician, and then takes a prescribed walk, either on a level path or on one of the hill climbing paths, as may be directed. After sufficient time has elapsed after the walk he gets a carbonated brine bath three times a week and then goes to his room for an hour's rest. On the alternate day a salt rub may be given, particularly if the skin lacks tone, is oily, or presents numerous acne lesions. Luncheon is served at twelve-thirty. In the afternoon a rest is taken out of doors and this is followed by general massage three times a week. After the massage the patient goes to his room to rest for an hour. On the alternate days any condition complicating the myocarditis may be treated by appropriate measures; electricity in its various forms and the sedative forms of hydrotherapy may be ordered. Dinner is served at six-thirty and the patient retires at ten.

When the treatment is far enough advanced to permit of it the resistance exercises are given on the alternate mornings with the carbonated brine bath, and the salt rub, oil rub, or sedative hydrotherapeutic procedure is ordered for the afternoon, alternating with the general massage.

Driving and automobiling may be ordered in suitable cases.

The following is the detailed report of a case of simple dilation of the heart treated according to the above enumerated methods:

History by Dr. G. P. Thomas.

The patient was a white female, aged 37 years. She complained of intestinal indigestion and said she was nervous and easily depressed. She was anemic and when fatigued lost all her color. She was easily alarmed at little matters. She attributed her symptoms to the fact that she had taken personal care of her children with its accompanying nervous strain.

Family History.—Father living, aged 58 years, well; mother living, aged 57 years, well; one brother living, aged 32 years, well; two sisters living, aged 35 and 27 years, the older one is inclined to be nervous, otherwise both are well. Grandparents all long-lived. Maternal grandmother living, aged 80 years. Paternal grandmother died at 96, of pneumonia.

Summary.—Negative.

Previous History.—The patient had the usual diseases of childhood except diphtheria and scarlet fever, she never had pneumonia, malaria, or rheumatism. She was troubled with nervous diarrhea while in college, which persisted for some time. She was married at 25, and has had three children, two boys, aged 7 and 3 years, and one girl, aged 10½ years. No miscarriages. Menstruation began at 13 and for ten years she suffered much pain for the greater part of the first day. Five years ago she had a nervous breakdown. Two of her children were sick and the worry and care were responsible for the disturbance, which was said also to have been complicated by ptomaine poisoning. She has never had any other illness. She has never had edema or dyspnea to any degree.

Summary.—One attack of ptomaine poisoning.

Habits.—The patient has been much confined to the house with her children. She seldom goes out at night. Her appetite is very good now, she has drunk one cup of coffee daily all her life, and two cups of tea daily. She has taken large amounts of milk in the past but does not like it. She says she drinks water freely. Her bowels tend to be constipated at times. Urine is passed with normal frequency and without distress. She does not get up at night to urinate. She sleeps well but dreams.

Summary.—Tendency to constipation.

The present trouble began in April, 1910, after she had heard a lecture by Fletcher. She took his advice, did not eat except when hungry; became anemic and had an attack which was diagnosticated ptomaine poisoning. She was very nervous and restless and could not concentrate her mind; even reading became difficult.

Condition on Admission.—The patient complained of intestinal disturbance of five years' duration. A year ago she had a severe anemia which she ascribed to dieting. There was no headache; slight vertigo on changing the position quickly; no tinnitus; no ocular symptoms except black specks; no chest pain, no cough, no expectoration, no dyspnea. There was some palpitation of the heart on excitement or exertion. No abdominal pain, no nausea, no vomiting. She complained of occasional attacks of intestinal gas, with flatus, and some gastric gas, with belching. When she had gas in the stomach she had attacks of dizziness with fainting spells, and palpitation of the heart. These symptoms were relieved by belching. The bowels moved twice a day. She took an enema daily, usually composed of a quart of hot water. She said she had hemorrhoids. Urine passed eight or ten times a day and she did not get up at night to urinate. The patient menstruated at 13; she is regular; has no pain. For a year she had had menorrhagia using twenty napkins a day. Patient was married at 25, had had three children and no miscarriages. Youngest child 3 years old.

Physical Examination.—A short, well-developed, white, adult female; apparent age, 40 years.

Hair.—Black, abundant.

Pupils.—Normal, react promptly to light and distance. Conjunctivæ pale. Scleræ slightly yellowish.

Tongue.—Protruded straight, tremulous, tooth-marked at the edges, slightly coated on the dorsum with a white fur. The organ is markedly anemic. Mucous membrane of the mouth, pale.

Tonsils.—Not enlarged; posterior wall of pharynx normal.

Chest.—Well formed; intercostal angle acute; respiratory movements good. Marked pulsation in the vessels of the neck. Examination of the lungs gives no pathological signs.

Heart, P. M. I.—Fifth interspace, midclavicular line. Dullness upper border fourth rib, fifth interspace, midsternal line, inside the midclavicular line. There is a soft systolic murmur heard all over the heart. The points of maximum intensity are in the second right interspace and at the apex. The murmur at the apex is transmitted into the axilla, but is not heard at the angle of the scapula. The systolic murmur heard in the second left interspace is probably the transmitted apex murmur, although it is heard louder in the second interspace than at the apex. There is a soft systolic murmur in the second right interspace which is transmitted into the vessels of the neck. The pulmonary diastolic sound is accentuated. The aortic diastolic sound is slightly accentuated. The muscular quality of the systolic sound is fair.

Abdomen.—Abdominal wall, 1 inch thick. Inguinal lymphnodes not palpable. No area of tenderness, no tumors. Liver dullness fifth interspace to the seventh interspace; edge not palpable, not tender. Splenic dullness obtained at the eighth interspace; edge not palpable. Stomach tympany fifth interspace to the ninth rib; vertical diameter of stomach tympany 4¾ inches. Kidneys not palpable.

Blood Pressure.—Recumbent (auscultatory method).

Systolic, 150;	1st phase, 150;
	2d phase, 135;
Diastolic, 88;	3d phase, 122;
	4th phase, absent;
Mean, 119.	5th phase, 88.

Pulse.—104, small and weak; artery not palpable; brachial artery questionably palpable; temporal artery not palpable.

On assuming the upright from the recumbent posture the pulse increases to 106.

Weight.—137¼ pounds.

Summary. — Hypertrophy of the heart, mitral regurgitation, high blood pressure, rapid pulse.

March 17th. Heart, P. M. I.—Fifth interspace, midclavicular line. Dullness upper border fourth rib, fifth interspace, right edge of sternum, midclavicular line. From the third interspace at the right edge of the sternum to the apex measures 6½ inches. There is a soft systolic murmur heard in the second left interspace, the third left interspace and at the apex, not transmitted. The maximum intensity of this murmur is in the third left interspace at the left edge of the sternum. There is a rather harsh systolic murmur in the second right interspace transmitted into the vessels of the neck. The murmurs are more apparent in the recumbent than in the sitting posture. The

diastolic sounds are normal. The muscular quality of the systolic sound is fair.

March 21st. Weight.—139 pounds.

March 26th. Heart, P. M. I.—Fifth interspace 4½ inches to the left of the midsternal line. Dullness third rib, fifth interspace, one-fourth inch to the right of the midsternal line, 4¼ inches to the left of the midsternal line. There is a soft systolic murmur at the apex not transmitted. There is a soft systolic murmur in the second left interspace not transmitted. There is a systolic murmur in the second right interspace harsher in quality than the other two murmurs transmitted into the vessels of the neck. Muscular quality of the systolic sound good.

Blood Pressure.—Recumbent (auscultatory method):

Systolic, 125;	1st phase, 125;
	2d phase, 118;
Diastolic, 75;	3d phase, 104;
	4th phase, absent;
Mean, 100;	5th phase, 75.

Pulse.—100, regular, fair strength and volume; artery not palpable. On assuming the upright from the recumbent posture the pulse increases to 118.

March 29th. Weight.—139½ pounds.

April 15th.—The patient leaves to-day. She has completed a full course of carbonated brine baths.

Heart, P. M. I.—Fifth interspace 4¼ inches to the left of the midsternal line. Dullness third rib, fifth interspace, ¾ inch to the right of the midsternal line, 4 inches to the left of the midsternal line. Oblique diameter of cardiac dullness 6¼ inches. There is a soft systolic murmur with the maximum intensity in the fourth interspace transmitted to the apex, not heard in the axilla. There is a soft systolic murmur in the second left interspace indistinct and not transmitted. The pulmonary diastolic sound is accentuated; the aortic diastolic sound is normal. The muscular quality of the systolic sound is good. Liver dullness fifth interspace to the seventh interspace; edge not palpable and not tender.

Blood Pressure.—Recumbent (auscultatory method):

Systolic, 130;	1st phase, 130;
	2d phase, 119;
Diastolic, 82;	3d phase, 110;
	4th phase, 104;
Mean, 106.	5th phase, 82.

Pulse.—84, regular, good strength and volume; artery not palpable. Brachial and temporal arteries not palpable.

On assuming the upright from the recumbent posture the pulse increases to 94.

Blood Examination. (On admission.)

Erythrocytes	7,240,000
Leukocytes	8,480
Ratio	1-853
Hemoglobin (Sahli)	91%
Color index	0.62+

Differential Count.

Polymorphonuclear neutrophiles	66.6%
Lymphocytes	21.8%
Large mononuclears	8.8%
Transitionals	0.2%
Eosinophiles	2.2%
Basophiles	0.4%
	100.0%

Two urine examinations were made: The first showed, total quantity, 1600 c.c., light amber, acid, specific gravity, 1012. It contained no albumin, no glucose, no indican. The microscopic examination showed a few leukocytes and a moderate amount of epithelium.

The second specimen showed, total quantity, 1580 c.c., light amber, acid, specific gravity, 1014. It contained a trace of albumin, no glucose, and no indican. The microscopic examination was negative.

The treatment consisted of the regular series of carbonated brine baths on alternate days, alternating with general massage. The patient also received a static breeze to the head three times a week and Swedish movement three times a week. She was required, at first, to spend two hours a day at rest out of doors, and, later, was required to walk on the measured and graded paths daily. She was given mild chest weight exercises. On admission, 1-10th grain of calomel was given every hour for ten doses.

The following prescription was ordered:

℞

Strychninæ sulphatis .....gr. ss;
Ferr pyrophosphatis .....ʒ iv;
Aquæ
Elixir cinchonæ .....aa, ℥iss M.

S: Teaspoonful in water four times a day. The diet list used for patients taking carbonated brine baths was ordered.

I considered this case on the original examination to be one of mitral regurgitation with compensatory hypertrophy and loss of compensation. Under treatment the muscular quality of the systolic sound of the heart improved. The murmur was much less in intensity than at the beginning of the treatment. The systolic blood pressure was reduced from 150 m.m. to 130 m.m. The pulse was reduced from 104 to 84. Upon watching the physical signs as the treatment progressed I considered the case to be one of simple dilation of the heart with a regurgitant murmur due to dilation of

the mitral ring. The outlines of cardiac dullness are reproduced here exactly as recorded at the various examinations and illustrates the limitations of the method of percussion for estimating the size of the heart.

Discussion.

Dr. L. F. Bishop, New York City: I want to commend the very conservative and delightful manner in which Dr. Swan has presented this question of the Nauheim treatment. This treatment has interested me very, very much. I spent two summers at Nauheim studying the treatment, and paid a good deal of attention to it at home, and I am thoroughly convinced of the value of the Nauheim method. I think we are fortunate in having a man like Dr. Swan to supervise this treatment in a place where people can get it, because the Nauheim treatment, as given in America by physicians who do not understand it, and who do not give it to suitable cases, or do not give it the right way, has done more harm than good, and I hesitate to recommend the Nauheim method at home without being perfectly sure who is going to give it. There have been a few men in New York City who have understood the methods, and have used them with the baths. Our good friend, Dr. Elsner, who is not present, has been a very close student of the Nauheim method, and has used it with great success.

The point is that the treatment is not a specific one. It is the adaptation of a great many different things to bring about a result. As Dr. Swan has said with regard to arteriosclerosis, in the severe and dangerous cases, the carbonic acid gas is better left out, and that in the natural baths of Nauheim there is not a great deal of carbonic acid gas. There is more carbonic acid gas in one artificial bath given by some physicians in America than there is in a dozen baths given at Nauheim. There the water is drawn into vats and stands for a long time, and patients have the water to use a long time after it comes from the springs, and while the carbonic gas gathers on the body, while the patient is in the bath there are no bubbles, there is no active effervescence just as in the artificial bath, as ordinarily prepared. I think conservatism in the use of carbonic acid baths is quite important. The baths should be given by people who understand them.

I have many theories as to the way this treatment acts. I believe that in most cases of cardiovascular disease what the patient is suffering from is a disturbance of the tonicity of the muscular elements of the circulatory organs. By tonicity we mean the continuous partial contraction which exists in all healthy muscles. My arm, for example, is firm when I feel it. This is because there is partial contraction of that muscle. If the muscle was paralyzed it would be flabby. That is tonicity, and that involves the involuntary as well as the voluntary muscles, and what people are suffering from in most cases of the cardiovascular disease is a disturbance of tonicity. The tonicity of the heart muscle may be diminished; then we have dilatation of the heart. It may be increased, as in cases of high blood pressure. The same way with the muscles. They may be diminished as in low blood pressure; they may be increased as in high blood pressure. In heart failure we get very often a loss of tone in the heart; at the same time we get an overtone of the peripheral circulation. The wiry pulse of a patient dying of peritonitis represents an overtone of the peripheral circulation in the attempt compensated for the weak heart, and the curious effect that we have all observed and known and have appreciated is the action of digitalis on a bad case of heart disease, reducing blood pressure apparently. You take a patient dying of heart disease, with dilated heart, with high blood pressure rate, and small contracted arteries, you give that patient digitalis and restore the tone of the heart muscle and the reflex contraction of the peripheral circulation will let up, and you will get lower blood pressure rate, and the patient will be a great deal better, while we naturally think digitalis has raised the blood pressure. So that the effect of the Nauheim treatment, properly given, is to regulate the tone of the muscular elements of the circulatory organs, and that is the reason it is so valuable.

I think Dr. Swan is to be congratulated on the extremely conservative view he takes of the subject.

Dr H. Schoonmaker, Clifton Springs, N. Y.: It has been my privilege during the past four years to watch the progress of a good many cases under this treatment and I do not hesitate to commend it highly. But, as I said upon this floor two years ago, the Nauheim method is not indicated in all cases of heart disease. We must select our cases, we must understand what results to expect from the treatment and we must watch the progress of each case.

I like the term Nauheim method, rather than Nauheim baths, because the scheme involves much more than the baths.

McKenzie, in his recent work on Diseases of the Heart, condemns the whole Nauheim scheme. He says equally good results can be obtained by the use of plain water providing the temperature and time of baths be properly regulated. We who have made use of the Nauheim method to any extent find it difficult to agree with McKenzie, but we admit that we have not tried out the matter with control cases. Aside from Nauheim the treatment has been given extensively only in institutions like the one which Dr. Swan represents, where experimentation for scientific purposes is quite out of the question.

In preparing the bath many physicians are prescribing the gas alone. In my opinion this is not as effective as the combined saline and gas bath. The essential saline ingredients of the Nauheim springs are sodium chloride and calcium

chloride. These in proper proportion and increased in quantity from week to week, cause effective skin irritation.

I do not believe anything is gained by using water from springs which contain in addition to the salts mentioned other salts in small amounts.

In the production of the gas in the bath, the mechanical method which supplies a saturated bath is to be preferred to the chemical method. By this method the gas from a CO_2 tank and water passes together under pressure through a mixing device resulting in a saturated solution of finely broken gas globules which readily adhere to the skin of the patient.

The contention that in taking this bath sufficient CO_2 may be inhaled to endanger the patient's health is without foundation.

Dr. Swan spoke of the indefiniteness of determining the size of the heart by percussion. It is true that absolute accuracy is difficult by percussion, but it is still the most accurate method at the command of the general practitioner. We must not give it up. If we are in position to verify our findings by the X-ray, so much the better.

TAKING THE CURE AT CARLSBAD.*

By HARRY G. WATSON, A.M., M.D.,
NEW YORK CITY.

CARLSBAD is about a ten days journey from New York. You can take one of the fast palatial steamers of the North German Llyod and be in Berlin in seven days. It is well for one who has not travelled before to the other shore to take a German boat to get acquainted with German customs and to pick up some of the familiar German expressions.

Arriving at Bremerhaven, with the aid of one of the stewards, you get your baggage passed by the Custom officials who are on the lookout for cigars, candy and whiskey, the three dainties of the American traveller. You then get aboard of your first German train with the help of a *Gepäck träger*—a word and the man that will soon be familiar to you; he is the porter that looks after your baggage. You might as well know in the beginning that your baggage is the bane of your life in travelling abroad. It has to be weighed and checked, and checked and weighed at every stop over, until you wish you could put it all into a five grain capsule and swallow it. There is no baggage free in Germany except what you carry in your hands and your pockets.

Now you get your first impression of the first, second and third classes—a regular division of everything in Germany and other parts of Europe. You enter the train from the side and walk down a narrow aisle and peep into each compartment to see if there are any seats vacant, you then glance at the numbers at the door corresponding to the seats and if these numbers are *frei* or free, you go in and sit down face to face.

Most of the trains you enter from the side and step directly into your compartment.

It is well to stop over in Berlin, the beautiful, for a day of two. Berlin is one of the cleanest cities of the world. Being the biggest and busiest, and coming from New York, it is a relief to see a big city that is clean and beautiful. If you are a physician and have the time, drop around to the Anglo-American Association on Friedrickstrasse and you will find some American physicians who are studying in Berlin.

You take the Carlsbad express in the morning, passing through Dresden, another delightful place for a visit, and after a most interesting ride, admiring the curious houses, the beautiful fields of flowing grain, blue corn flowers and red poppies, the like of which you have never seen before, you come to the border of another country, Austria.

Here, again, your baggage is looked through, and put back on the train. You will notice at once the lack of discipline; the country does not look so prosperous, the attendants are not so prim. At last we arrive at Carlsbad, the greatest *Kurort* in the world. Carlsbad is in Bohemia, a crownland of the Austrian Empire. It lies about 1,200 feet above the level of the sea, in a beautiful wooded valley of the river Tepl. The average temperature during the season for taking the cure is about 57 degrees F. There are many hills surrounding Carlsbad, the air is pure and refreshing, and it is a delightful spot, restoring health to many thousands from many lands, for many years. The cure is taken during the spring and summer months.

If you have not made your arrangements, it is best to go to a hotel; there are many excellent ones in the so-called West end, or if you wish to get rid of the jaundice of your greenbacks, stop at Pupp's, the Plaza of Carlsbad.

There are many rules and regulations which may become annoying, so it is wise to provide one's self with a work on Carlsbad before arriving there. For instance, if you should stop at a boarding house, and not make any definite arrangements as to the length of your stay, you will be charged for the usual time for taking the cure whether you remain or go.

If you have not selected your physician, you will find a list of physicians, with their addresses and hours posted in every hotel. The consultation fees are about the same as here in New York for specialists, that is, five or ten dollars for first visit and examination, and less for the following visits. There is only one surgeon in Carlsbad, just think of it! That may be one of the reasons there are so many cures in Carlsbad.

Taking the cure at Carlsbad consists of four principal things, drinking the water, taking the proper baths, dieting, and resting.

* Read before the Medical Society of the State of New York, at Albany, April 18, 1911.

The following diseases are said to be cured or relieved at Carlsbad:

Diseases of the stomach, diseases of the intestines, diseases of the cavities of the mouth and pharynx, liver complaints, including diseases of the gall bladder, diseases of the kidneys, diseases of the bladder, diseases of the spleen, diseases of the prostate gland, diseases of the female sexual organs, diseases of metabolism, such as obesity, gout, diabetes, oxyluria; complaints of the joints, muscles and nerves, and skin diseases. A favorite soap over there is 4711, not related, however, to 606.

Taking the cure at Carlsbad is contra-indicated in tuberculosis, in valvular diseases of the heart, atheroma and all cases of malignant growths.

Your physician will give you a slip of paper which will remind you of your daily schedule at college—every hour is accounted for. The spring you shall drink from, the number of glasses of water, the kind of bath to take and the length of time, the diet you should live on, the hours for resting and the time for exercise and sleep.

The next morning you will arise at 5.30, and the most curious procession you have ever seen in your life begins. There may be as many as fifteen thousand persons forming in different lines at the different springs. There is no class distinction here, the prince and the pauper have the same chance. Each one has his cup in hand or tied to a leather strap hanging at his side waiting his turn at the spring, and you march along humming the tune "meet me at the fountain."

The members of the orchestra wear high silk hats and Prince Albert coats and it seems rather a curious sight as they fiddle away your sorrows with songs without words at this early morning hour.

You stand at the spring which looks like a gushing geyser, waiting your turn. A maiden fair, dressed in water-proof garments, with the aid of a dipper on a long wooden rod catches the hot spray as it falls, fills your cup and on you pass, sipping the salt water or taking it through a tube. You walk around a while emptying your glass which takes at least twenty minutes and maybe repeat the dose. Then off you go hustling and bustling to the bakery shop, select your little bag of rolls, go to your favorite coffee house and eat your breakfast, which will not be very much. You then rest for an hour and go to your bath, which may consist of an ordinary hot saline bath or hot compress of fango or water or may be a carbonic bath.

The most popular spring at Carlsbad and the one to which it owes its existence is the famous sprudel—and the one from which we get our Carlsbad-sprudel water or salts in this country.

All that art and nature can do to make one's taking the cure delightful, has been done. The sprudel colonnade is a beautiful enclosed structure adorned with blooming flowers and plants, made comfortable for the weary by enticing benches, made soothing to the nerves by sweet strains of music from the orchestra—and the curious passing crowds make one forget one's troubles. This will take up your morning, including an hour's repose. Then you hasten to your lunch, and "Oh, you lunch!" as they say on the Bowery. After lunch you take a stroll through the beautiful woods and maybe take some more water at another spring. At night you can go up to Pupp's hotel and look at others dine and think you are in New York sitting in Peacock row at the Waldorf-Astoria. You see more beautiful women and more becoming costumes at this watering place than anywhere else. It is like a family reunion of the élite.

Down in the lower end of the city you could imagine you are somewhere near Rivington street, New York, or in Poland.

There is much of interest at Carlsbad besides the springs; excellent theatres, horse racing at times and many other sports. So it is easy enough to while away the time. You don't have to pay for the water you drink. The expenses are paid by a tax on those who remain for a week or longer, from which physicians and their families are exempt. You can classify yourself as first, second, or third class, and if you are still too poor you can be exempt by applying to the mayor.

You have to pay for the baths which cost about a dollar each, and less if you take them in the afternoon. Your afternoon is taken up by drinking the waters from some other spring and keeping your eye on the sign which reads *Fur Herren.*

The tipping system in Austria is confusing and sometimes annoying. Every American is accustomed to giving tips and as a rule they give too large tips, but in Austria and at Carlsbad it is the custom to tip four different persons every time you eat at a hotel. The amount you give is the same as when you give the usual 10 per cent. tip.

Taking the cure at Carlsbad continues for from three to six weeks going through your daily routine as above.

Many persons after taking the cure go to some quiet resort and take a *nach Kur,* an after cure and rest up. There is no doubt that many thousands of persons are benefited and cured by drinking the waters at Carlsbad, by living the simple life, and by communing more with nature. Such is taking the cure at Carlsbad.

Discussion.

Dr. L. F. Bishop, New York City: I was very glad to hear Dr. Watson define the contra-indications for Carlsbad. I have had a patient under my care this winter who was made much worse because he had not been advised, according to Dr. Watson's paper, and had gone there for arteriosclerosis and high blood pressure. Sometimes patients are carelessly sent to Carlsbad by American physicians because they have not taken

the trouble to study the different cures and to select the proper cure. In arteriosclerosis and high blood pressure, patients threatened with these conditions, on account of intestinal putrefaction, should avoid the so-called drink cure. They ought not to drink large quantities of alkaline mineral water, because it is acknowledged now that an alkaline reaction of the intestinal tract favors putrefaction, and a large quantity of water taken is bad for people with impaired circulation.

I would like to call attention to Dr. Watson's list of diseases in which Carlsbad is desirable, because that certainly has been borne out by experience.

COMMON SENSE IN THE REARING OF CHILDREN.*

By C. A. FROST, M.D.,
UTICA, N. Y.

WHEN I get a bit down I turn to Sterne's "Tristram Shandy" and follow his delicious wanderings. The heading of one of his chapters is "Button-holes." He says he always wanted to write something on "Button-holes" because no one else ever had. So he heads his chapter "Button-holes" and proceeds to talk about everything else under the sun. So when Dr. Halstead asked the title of my paper I was tempted to say "Button-holes," for, from what follows, you will see I have, like Sterne, wandered far from my subject.

It is not an easy matter to persuade anyone to ride your hobby, nor to so ride your own that others will be interested in your prancing steed. You can awaken plenty of criticism of your foolish devotion to a hobby, but any real criticism of the horse itself is hard to arouse, for each man's mount absorbs all his attention lest he be thrown into the ditch. Nevertheless I am going to bring mine out again for inspection, for he has his good points. In the first place he is young in comparison with most of the other hobbies displayed.

It has not been long that the child has been considered as an asset, not long since the child was a luxury or a burden. But to-day the death of a child is distinctly a loss to the community. This next century will be the child's century as the past has been the woman's.

It is the children's hour, there will be a pause in the day's occupation between the dark and the daylight, and let us hope this sequence is right; the darkness passed and the daylight about to appear and not the night beginning to lower. This new interest in the child is not altogether altruistic, it is fast becoming a practical question. The decreasing birth-rate, with the advance of civilization, is becoming a menace. We, in this country, can afford at present to laugh at Roosevelt's race suicide and think with Malthus, but the time is surely coming when the situation that faces France and England and many other nations, will be the one we have to face, if some more potent barrier is not evolved to stem the enormous death-rate among the infants and the decreasing birth-rate. To be sure the over optimistic say the decrease in death-rate is keeping the balance with the decreasing birth-rate;—that may be so now, but can it be maintained. Few can believe that the same decrease in death-rate can be maintained without untiring labor and vigilance on the part of the physician.

It is natural that agitation for the child's interest should follow closely upon the agitation in regard to woman's interests, for their moral and physical welfare are most intimately associated. We have been so aroused over the rights of woman that we forget that not woman but the mother is the country's most valued possession, and so it is for the best interest of the country that the function of motherhood be protected by every safeguard.

Motherhood does not stop at the birth of the child, nor even at the weaning period. There has never been found a substitute for mother's milk, a mother's care, or a mother's training. It has been the curse of the past that the mother has turned over the feeding of her child to the cow and the care and training to the nurse, the kindergarten and the school. Some one has wisely said, "The chief requisite for the successful practice of pediatrics is the education of the mother." It is impossible to do even fair work without the co-operation of the home. A woman has the right to ruin her health in the factory or in competition with man if she expects to avoid motherhood, but conditions are absolutely wrong when women are allowed to ruin the welfare of the child by undermining their own health. This is being recognized, and in many factory towns it is required of the mother that she take a certain amount of rest and special privileges are granted her. As a mere economical question we know no mother can rightly bring up a child and do much else. Would it not be the part of wisdom to strive for a state of society where the mother could be allowed to carry out her role as mother and spend as much time for the advancement of motherhood as we do on the pure milk question, schools, etc.? If the mother could have time given her to rear her own child, in the end I believe it would prove an economical move. We might not have to inaugurate a tooth brush brigade in the schoolroom. Some day women will realize that motherhood is as honorable a vocation as any that can be undertaken; and the state will realize the value of it to the extent of rightly recompensing it. The great menace to the infant has been not a lack of desire but lack of

*Read at the Annual Meeting of the Fifth District Branch, at Syracuse, October 19, 1910.

ability, on the mothers' part, to nurse her child even for a short time. Among the weathier class it is, perhaps, due to their more vigorous outdoor life. There is no substitute for mother's milk worthy the name. The large death-rate among infants is mainly due to artificial feeding. Anything that has driven the mother to nursing her child has always proved a blessing to the infant in a decreased death-rate. Such times as the siege of Paris or during industrial strikes, where mothers are forced to remain at home and so find time to nurse their infants, have always been followed by a lower infant death-rate. Yet to some artificial feeding we are frequently forced. Animal milk is the only substitute that can for a moment be considered. Bitter experience has brought me to this conclusion, that any so-called infant food other than animal milk is not only a poor food, but almost no food, and acts as a vicious foreign substance that the infant stomachs cannot digest nor the intestines absorb any nutriment from. Some of us are led astray by panic when we see the infant slipping from our grasp, and reach out wildly and promiscuously for some well-advertised food—a thing we never would do with an adult—a food, that in our sober moments, we know to be unscientific. Some of us are careless and feel we have not the time or the energy to work out a formula suited to the case, for unfortunately there is no series of formulas that will be anything better than a general guide. Egg albumen, broths, and the patent meat foods are useless in times of health and worse than useless in sickness.

This has been so thoroughly thrashed over that a warning on this subject seems unnecessary, yet seldom will a day pass that we do not hear of some physician who has ordered just these unscientific things. Thus we are driven to some form of milk. I have tried for the past five years to examine a specimen from most of the healthy mothers among my patients who are nursing healthy, growing infants, and have found a much higher fat percentage than we usually see recorded in the text books. I do not mean average milk, for we do not want average milk, we want the best we can obtain. I have seldom found this to be below 5 per cent. and this specimen is taken from the middle nursing, on the fat increases toward the end, though slightly below in the beginning. I believe were the truth known a still higher percentage would be found to be the product of the normal breast. Now, much as we dislike the situation, most of the babies have to be fed on some artificial food and we must choose the best at our disposal. Really the cow and the goat are the only animals we can conveniently turn to. Cow's milk, as an average, contains 3.7 fat, 3.5 proteid, 4.9 sugar, 75 mineral matter. Goat's milk, 4.3 fat, 3.7 proteid, 3.6 sugar, .8 mineral matter. There are many things to be said in favor of the goat's milk but predjudice has rendered it hardly practical, so I only wish to discuss cow's milk as a substitute. Now when we have given the chemical analysis, the problem is not solved. There are many other questions to be considered; this is but a beginning of physiological chemistry in its bearing on infant food. Mother's milk brings immunity for many of the infectious diseases, which power of immunizing, of course, the cow's milk does not possess. Also the difference in the anatomy of the cow's digestive apparatus, with its four stomachs for the digestion of the heavy curd, and the human digestive apparatus must be considered. The child, with one stomach and a very small opening at the pyloris cannot possibly digest the large mass of curd intended for the calf. The difference in sugar percentage and that of the mineral matter seem to be more easily overcome. The child at birth has undeveloped centers for heat and respiration and the nervous system has a poorly balanced equilibrium. An extremely large portion of heat is lost to the infant's body from its large cutaneous surface. The surface of the infant's body being about three times that of the adult every indication shows that a large amount of fat is required for the growth of brain and increase of tissue. This being so, why reduce the amount of cow's milk fat below the normal woman's milk fat, unless this large amount of fat cannot be digested? The fat of gravity cream of the Holstein, Ayershire and Red-cow is digestible. Then let us see—we need as high or higher fat percentage and a lower and different proteid percentage. According to Dr. H. C. Sherman, of Columbia, top-cream, top one-half ounce from each of four quart bottles of milk, sixteen hours after milking total proteid yields a flocculant curd that easily emulcifies. The upper ounces, or top gravity cream, contain the proper amount of proteid. Centrifugal cream is nearly proteid free and so should not be used.

Now if we can by some means manage to have the mother nurse the infant for the first few weeks the greatest danger is past and properly modified milk can, with attention to details, be given and we can reduce the horrible and disgraceful mortality.

Since feeding higher fat percentages I have been amazed at the success. I had long thought, from my examination of mothers' milk, that some mistakes had been made in the dread of high fat and, at first, with fear and trembling. I fed my babies along the general line advocated by Dr. Winter in his excellent article read before the Brooklyn Pædiatric Society. I have also discarded all rice water, meat broths, cereal gruels, etc., in diarrhœal troubles, and have depended upon weak solution of condensed milk in small quantities, at four hour intervals and,

though I have had some trials with anxious mothers, and hungry babies, I have never regretted my move. This, of course, is only a temporary food and must not be continued. Alas, all cows' milk properly modified is not digestible for we must have clean milk, and this, is the worst side of the question to conquer. The problem of obtaining decent milk is harder than one imagines. We, of the smaller towns, cannot expect certified milk for the cost of obtaining it, for so small a market would make this price prohibitive. Pasturizing dirty milk is worse than useless. It creates a false security. Most of our dairy men upset their cows' digestion by sudden changes in feed as the seasons change and cause infinite trouble with the poor babies who are dependent on them. Most of our dairymen feed brewery grain. The state of the stable and cows is no better, nor worse, than is found anywhere, but a visit to the dairies demonstrates the futility of intricate formulas, when we examine the source of the milk supply. In the dairies about Utica I could find but one dairy that was properly kept. From this I have obtained most of the milk for my sick babies this summer. The owner has very kindly tried to aid me in my effort to obtain clean, wholesome milk. The majority of his customers preferred Jerseys and Guernseys, which milk I could not use. The milk of these breeds is not digestible for most infants, so the dairyman has set aside the milk of a few Holsteins, marking it especially for infant feeding. As many of the sick children were outside of the regular milk route, he has either delivered it in his own private "auto," or delivered it within a few blocks of the final destination and my patients have called for it. This is not a paying investment for him, though he charges twelve cents a quart for this special milk. If public sentiment could only be sufficiently aroused to inaugurate some such milk supply as they have at Rochester, under that ardent worker, Dr. Goeler, or a municipal depot, such as exists in European towns, the death-rate might be materially reduced. In other words, I believe our cities to-day are directly responsible for a large proportion of the infant deaths. This should not be a charity but should be a municipal undertaking. A clean milk supply should be just as much the duty of a municipality as a clean water supply. I believe the time will come, if enough interest can be aroused, when the municipality will undertake to produce, and distribute milk, especially intended for children, at a price within the reach of the people, so that a cheaper milk would not be a constant temptation. The deficit should be a public charge. After a proper milk is obtained, and a proper formula given, the duty of the physician has not entirely ended, even with the normal child. Spend a little more time, to explain to the young mother, that which, from familiarity, seems common place to us, lest she acquire erroneous information from the neighbors, and the same false doctrines are passed along for another generation. It does not take much time to explain to this mother, before the baby arrives, how the clothes should be made. Personally I have a slip with a drawing of the proper clothing, which I hand to the mother. It takes but a few minutes to tell her what the necessary environments of the child are. Tell her why the various infant foods are not proper for infant feeding. Explain in a general way that any sore throat, any persistent pain in the abdomen, or ears, needs the attention of a physician, tell her about the ventilating of a room with a window board. I know we are apt to think the ignorant mother pays no attention, but she will, oftener than we imagine, and if every physician will spend twenty minutes explaining the few commonplace things that really mean so much, she will eventually absorb something. Tell her how much and when to give water, when to bathe the child, and how to clothe him, see that a proper nursing apparatus is obtained and how to care for it, explain why a urine-soaked diaper should not be dried in the same room where the baby sleeps and again applied before washing. This may seem superfluous, but twice within this month in intelligent families, I have had it explained to me that a nurse, in one case, and a physician in the other, said it took the strength of a child to put on clean diapers. Give the mothers some idea when and how to take the baby out of doors, and how to give the baby an airing in the house on stormy days, give definite hours for sleeping, bathing, and, if possible, write out or have printed slips for a general guide in the eating, after weaning them; tell the mother never to hesitate to ask any questions and she will not run to a misinformed neighbor, or relative. I know this is commonplace and seems trivial, but that is the pitiful part of the situation. Most of our babies die from the neglect of trivialities, and so we go on in the same old way, afraid to belittle our dignity by explaining the little things that will surely help reduce the death-rate.

Pardon me for bringing nothing new, nothing gloriously scientific, but simply urging every one to lower himself from his cloudy "Olympus" and use good common sense in trying to educate the young mother.

RECORDING BLOOD PRESSURE IN GENERAL NARCOSIS OBSERVATIONS ON GRAMS OF AGENT TO KILOS BODY WEIGHT.

By WM. C. WOOLSEY, M.D.,
BROOKLYN, NEW YORK.

RECORDING blood pressure during narcosis and surgical procedure would have for its object (*a*) the early detection of warning evidence that the circulatory mechanism was suffering depression from the surgical

trauma, or (*b*) that the dosage of the narcotic agent was greater than consistent with safety to the patient.

From the standpoint of the anesthetic the degree and time of occurrence of any depression in the circulatory mechanism would be not only dependent upon the dosage of the anesthetic agent, but especially so upon the general pathology of the patient at the time of the anesthesia, in terms of renal function, cardiac function, vaso-motor efficiency, anemia, toxemias, etc.

If throughout one hundred narcoses for varied surgical procedure and surgical conditions the blood pressure ranged thus and so, no reliable conclusions could be deduced for use on a subsequent hundred cases whose general pathology and individual resistance must be as entirely different as their faces are different.

Given two cases of carcinoma of the breast for one or one and a half hour operation and any regular hypothetical dose of the narcotic agent for each, could the action of the blood pressure in the one case be any criterion to modification of the anesthetic dosage in the other?

Could observations on a hundred cases of carcinoma of the breast removal, include all combinations of concomitant pathological conditions, which would go to make up the surgico-narcotic behavior in one hundred other cases? In other words, could any applicable conclusion be drawn as to the action of blood pressure in the individual before one, for anesthetization, from its particular action in one hundred previous individuals of remote and varied pathological and physiological make-up?

It may well be perceived that every patient is a law unto itself as far as the effect of the anesthetic upon the circulatory mechanism is concerned, inasmuch as his particular organic make-up is different from every other and that what may be minimum dosage for one in particular might be maximum or toxic for another.

So much for the value of observations on blood pressure, as far as any influence it might have on controlling *dosage* of the narcotic agent is concerned.

The criteria which the anesthetist has at his command at present, if properly observed and interpreted, conveys to him knowledge which allows him to administer *minimum dosage* to each and every patient according to the reaction of that particular patient to the narcotic agent and surgical procedure, and even though early determination of depressed circulation were found by lowered blood pressure, at most, earlier institution of stimulative measures would be accomplished, for, as a matter of experience, when one has decided upon a certain surgical object neither suspension nor modification of the necessary procedure would be adopted, because the blood pressure had fallen; and again, as a matter of experience, any degree of depressed circulation which is serious enough to actually modify necessary surgical procedure can easily be detected by the anesthetist, reported to the surgeon and combated therapeutically.

With these facts in view observations on even a long series of cases could establish no regular laws as to dosage of anesthetic agent employed, nor could it materially add to the administrative skill of the anesthetist in providing him with specially valuable advanced information leading to prevention of dire results from either anesthetic or surgical trauma.

Minor degrees of change in blood pressure would be due to such a complexity of conditions and major degrees easily detected by any intelligent observer of terminal artery and capillary.

Grams of Narcotic Agent to Kilo of Body Weight.

Narcotic agents administered by means of respired air vary in the degree and rapidity of their absorption according to the condition (*a*) of the respiratory passages, pulmonary absorption surface and manner of breathing, and (*b*) the detail of the mechanical device wherewith the respiratory air is impregnated with the narcotic vapor.

Given a hypothetical weight of patient in kilos and a similar given dosage of narcotic agent in grams and the degree of effect produced would vary enormously and irregularly, dependent upon the above conditions.

Given a regular dose of narcotic agent and varied conditions of administration with varied actual absorption resultant therefrom, and the relation between that given dosage in grams to kilos of body weight can have no regular ratio.

On the one hand the child with pharynx full of adenoids, low kilo weight, requires high gram dosage to force sufficient actual absorption of narcotic agent through obstructed air passages to produce the desired narcosis, and on the other even high kilo weight with lowered vitality from severe illness requires only low gram dosage on mask with free respiratory absorption, to accomplish equally efficient analgesia and unconsciousness.

Economy of ether vapor and the partial asphyxia of any closed method of administration, diminishes the amount of ether actually used but not *a priori* the amount actually absorbed, and conversely open gauze mechanisms of administration increase the amount of ether used and wasted in the surrounding air, but by no means the amount absorbed.

So that serial observation on even one hundred cases of narcosis, with one form of mechanism for its administration, can bring out no certainly constant ratio between body weight in kilos and grams of ether or chloroform used.

Furthermore, with varying states of physiological perfection and pathological imperfection, the which bear no special relation to body weight and do play so important a part in the bodies reaction to narcotic agents, we have greater reason for disturbance in any possible regular ratio between dosage and body weight.

TWO CASES OF HEROIN HABITUATION.

By HARLOW BROOKS and H. R. MIXELL,
NEW YORK CITY.

IN a somewhat cursory examination of the current literature we have been as yet unable to find any cases of heroin habituation reported and there seems to be a general impression among the profession that this drug may be prescribed with relative immunity in this regard.

The whole question of drug habit is so important not only to the public at large but particularly to the medical profession that we therefore believe the following cases are worthy of publication. Both entered our service at the City Hospital at practically the same time. Since we have been creditably informed that the habit is by no means infrequent especially on the extreme east and west sides of the city. Druggists in these localities tell us that they believe that the prevalence of the habit is steadily growing, especially since there is now a greater difficulty in obtaining without prescription preparations containing the more active opium compounds. From the statements of our two patients there is a certain sense of stimulation and well being induced by heroin which surpasses in its delight that experienced from morphine and they assert that the habit is quite common among their associates. Apparently, judging from these two instances only, the immediate habit is broken with much less suffering and greater ease than morphinism or cocainism and the pathological and physiological effects are much less serious than in the more frequent habits.

CASE I.—M. S., female; age, 32; residence, New York state. Admitted, April 25, 1911. Discharged, May 15, 1911. Cured.

Family History.—Father died of Bright's disease. Mother living and well. Brother died of diphtheria. Grandmother on both sides had cancer. Mother has chronic rheumatism. No tuberculosis in family.

Personal History.—Born in United States of America. Ocupation, housewife.

Diseases of Childhood.—Measles, scarlet fever and rheumatism several times.

Surgical.—Curretage after a miscarriage.

Menstrual.—Onset at 11 years. Normal except for amenorrhœa for three years while taking morphine.

Obstetrical.—One child, two miscarriages (three and a half, and four and a half months).

Venereal Denied.—Husband also negative in this respect.

Morphine.—Began morphine habit about ten years ago to relieve rheumatic pains, took fifty quarter grain tablets a day for four years. She then stopped for about three years, then was given glyco-heroin for a cough and soon became addicted to that drug. Took about 6 ozs. per day. Has been taking this drug steadily for about two and a half years.

Present Illness.—On admission the patient's only complaint was great nervousness and depression. No pains anywhere. Feels very weak and has a craving appetite. Bowels are fairly regular but have a tendency to be constipated. Was unable to sleep during past two weeks. No fever, cough, or vomiting. Food stays well on stomach. She desires to be cured of her habit, which she finds expensive and troublesome.

Physical Examination.—Patient is a poorly nourished woman of about 30 years. Has a good color. Skin and mucous membranes in good condition. Not actually ill or in pain but has a nervous, anxious, apprehensive look.

Eyes.—Pupils equal, mid-contraction and react to light and accommodation. No strabismus, or nystagmus. Conjunctivæ clear.

Ears.—No discharge, tophi or mastoid tenderness.

Mouth.—Tongue coated. Teeth false, pharynx normal.

Neck.—No abnormally palpable glands or pulsations.

Thorax.—Lungs normal throughout.

Heart.—Loud, prolonged systolic murmur at apex, transmitted to left axilla and to base. Pulmonary 2d sharply accentuated, aortic 2d slightly. No enlargement of heart, action good, no thrills.

Pulses equal, regular, good tension, some arterial thickening.

Abdomen, very soft and lax with many striæ. Liver felt at costal margin. Spleen not felt, no masses, ascites, tenderness or rigidity.

Extremities.—Normal contour. Skin clear. Knee jerks exaggerated on both sides. No ankle clonus, Babinski or Koernig reflex. No œdema of ankles. No spasticities, Romberg or ataxias present. Abdominal reflexes normal. No nerve tenderness. Response to heat, cold and pain normal throughout. No disturbance of cerebration. Patient answers questions normally. Is not suggish nor excitable, mentally though somewhat melancholy.

Temperature on admission 99.2 degrees. This was the highest ever reached and it remained thereafter normal throughout. Weight, 110 pounds. Blood pressure, 140 mm.

Urine.—Cloudy, amber, acid; specific gravity, 1022; no albumen; no sugar.

Microscopical.—Heavy sediment of amorphous urates. No casts, epithelia or red or white blood cells.

Treatment.—April 25, 1911. On admission, calomel, gr. III, sod. bicarb. gr. X, codeine, gr. ss, B I D, followed in A. M. by mag. sulph ʒ ss. Milk diet. April 27th, regular diet, ward tonic ʒi t.i.d. A. C.

May 2, 1911.—Patient complained of feeling depressed and nervous and of severe headache which disappeared by May 3d with no medication.

May 7, 1911.—Severe griping pain in abdomen. Patient less nervous. Castor oil ʒ ss given and pain cleared up.

May 8, 1911.—Codeine was discontinued with no reaction. Patient now feels well. Appetite good. No nervousness, and pains have all disappeared.

May 15, 1911.—Discharged apparently cured. Weight, 120 pounds.

CASE II.—H. H., male, single, age 26 years; admitted, April 28, 1911.

Chief Complaint.—Heroinism.

Family History.—Mother living. Father died of cancer and typhoid. No tubercular, rheumatic or neurological family traits.

Previous History.—U. S. A.; occupation, clerk. Doesn't drink or smoke.

Medical.—Typhoid eight years ago, venereal denied except for gonorrhœa nine years ago.

Surgical.—Negative.

Diseases of childhood, negative.

Present Illness.—Began taking heroin five years ago for a constant cough. He began with small doses gradually increasing until he was taking 10 to 15 grains a day. His only symptoms, except extreme nervousness were pains in back and shins, hot and cold sweats, no appetite and extreme constipation, often going a week without a movement. No cough or expectoration. Has lost 10 to 15 pounds weight in last five years and feels much weaker. No nausea, no vomiting.

Physical Examination.—Well developed and nourished male of about 26. Not actually ill but very nervous.

Skin clear, no general glandular enlargement.

Eyes, equal and react to light and accommodation. Ocular movements normal.

Tongue, slightly coated, no deviation or tremor.

Ears.—Hearing normal, no mastoid tenderness.

Nose, clear.

Upper extremities, musculature good. Reflexes active and equal.

Spine, straight, flexible, no tender points.

Heart.—Apex in fifth space, 3½ inch L. of M. S. line. Heart not enlarged. Sounds of good, muscular quality; no murmurs; regular and good force.

Pulse, equal, regular, moderate tension; vessels soft.

Lungs, normal.

Abdomen.—No rigidity, no masses or ascites.

Liver and spleen not palpable.

Lower Extremity.—Musculature good, K. J. present and slightly increased. No clonus, no Romberg, no Babinski. Sensations of heat, cold and pain, normal throughout body. No ataxias, spasticities, cerebration apparently not impaired.

Blood pressure on admission, left arm, 120, right arm, 110. Weight, 134 pounds.

Temperature.—Highest, 99.2 degrees; lowest, 98.4 degrees.

Treatment.—Atropine, gr. 1-100 q. 4 h., codeine, gr. ss. q. 4 h., whiskey, ʒ ss, q. 4 h. Calomel, gr. III, sod. bicarb., gr. X, with mag. sulph. ʒi in A. M.

This treatment was continued up to May 2d, when the whiskey and atropine was discontinued. Up to that time the patient had been very restless and was unable to sleep at night. Codeine, gr. ss q. 4 h. was continued up to one day before discharge with a gradual improvement in his nervous condition.

May 4, 1911.—He complained of pains in legs from knees down along shins and in calves of legs. Had a marked non-intentional tremor, coarse tremor of hands and fingers. Complains of sleeplessness.

May 9, 1911.—Herpes Zoster developed in right intercostal region with stinging pains both posteriorly and anteriorly. His general condition, improving, nervousness almost gone.

May 6, 1911.—Herpes Zoster almost all gone. Tremor gone. Sleeps well. General condition good. Appetite good. Bowels now not constipated. Craving for the drug has now disappeared. Weight, 140 pounds, a gain of 6 pounds.

May 23d.—Patient discharged apparently well.

SECRET DIVISION OF FEES.*

By R. T. MORRIS, M.D.,
NEW YORK CITY.

WE should all be thankful that Dr. Brettauer has brought forward this subject in such a decisive way at the present time. Some very excellent men deprecate the discussion of this topic of secret division of fees because of their fear that the whole profession will be brought under suspicion. They are wrong. Bright sunlight and fresh breezes are always purifying agents.

Should we be careful about awakening a slumbering public? If the public is our prey and we are vampires—yes! for our sustenance depends on continued slumber of the victim. Are we guardians of the public's welfare—then awaken the public quickly. What, ho! watchman!

The secret division of fees is a menace which belongs to a coming period of degeneration, when moral relaxation is already in evidence. The menace to the state is the menace of Jugurtha bribing the Roman generals before Rome actually began to fall. An awakened public will begin to use that discriminating intelligence toward selection of physicians which we have always desired and have held to be really essential for developing efficiency. The public will then endow our institutions, close the inferior medical schools, and stop that overcrowding which allows the law of survival of the fittest to save the selfish individual rather than the ideal public servant. An awakened public will see just how dearly it is beginning to pay the penalty for its past carelessness.

I would speak particularly to the young men, to those who find the beginning of practice slow, and who fear they may not succeed unless through competing immorally. They hear various rumors to the effect that certain men are successful because they are unprofessional, and the young men do not know perhaps that success in any profession or undertaking calls out precisely the same comment with or without basis in fact. They may keep in mind the inspiring object lesson of the Mayos. A young man may surround himself with clean colleagues, whose dignity of intention is such that the circle consists of men all helpful to each other and to the public; or he may surround himself with men of negative imagination whose influence is destructive rather than constructive. Whatever the position of a young man be, it is gained through inherited tendencies and from his teachers, and he rapidly becomes one of a circle of men of his own type. *Les oiseaux d'un espece s'assemblent.*

Two or three years ago a young man whom I had known favorably as an assistant at the Vanderbilt Clinic, at that time in the department of gastro-enterology, came into my office one day and said that he was not making any headway in his practice. He said he knew it was unprofessional but understood such things were done, and would like to give me 25 per cent. of the fees for cases of gastro-intestinal trouble that I would refer to him. I asked him to be seated, to talk things over a bit. He was not very familiar with the fact that a great many of the troubles in his chosen field of practice were due to fibroid degeneration of the appendix, loose kidney, eye-strain, gall stones, and other sources of peripheral irritation. He did not note if patients in his field of practice ever carried stigmata of defective development, such as gun stock scapulæ, high-

* Discussion on an address by Joseph Brettauer, M.D., given before the Educational Alliance. April 23, 1911.

arched palates, ear-lobes running into the neck, and other common signs, and he did not give these signs any relative value as bearing upon the factors of neurosis in problems in his field, in brief, he did not understand his business. That was the reason for his failure; that was the reason why he was willing to commit professional prostitution, for precisely the same reason that women become prostitutes—through poverty and lack of an economic degree of proper information, leaving out all æsthetic questions. What he wanted to do, I suppose, was to inflict upon my patients the weary conventional round of test meals and diets which exhaust everybody connected with the case. He wanted to give me 25 per cent. of what the poor devils have to pay in addition to their physical misery. Were I open to insult from anybody, this would be about as close a call as I have ever had in any field of activity. Had this young man really comprehended the nature of his chosen field of practice he would have had little difficulty in soon getting his hands full of—professional work. I was about to say "business"; thank Heaven the word "business" did not slip my lips.

We cannot allow any deviation in our methods from those adopted by and acceptable to the representative men in the profession.

Some twenty years ago in the western part of the state I had occasion to do some work with a physician who liked to get together all of the bills connected with a case, and have them presented as a lump sum. They included local hospital expenses, his own visits, my work, the charge of the anesthetist, and everything connected with the case. It was his way of doing things, with the full compliance of his patient. It did not occur to me at that time that such a method gave opportunity for abuse, but shortly afterward another physician in the town asked me if I would care for one of his cases in the same way, and I heard subsequently that he had sent a separate bill in addition for his own services. Another case which he referred to me was referred with the expectation that I would send him a part of the proceeds. Noting the trend of such arrangement, I have refused ever since to take part in any such plan, and there have not been more than three or four occasions in the past twenty years when it was desirable for any reason to make one charge cover all expenditures.

One case belonging partly to this group occurred recently. A young man sent a case for operation, and proposed that I give him a part of the fee as he was giving up all interest in the case. I explained to him that it was a commercial conception of the situation, that he was not planning to get proper credit for his own interest in the case, and for his own subsequent management of it; that it would be very much more to his credit if we were to do the work in this case together, the case being one of a sort in which this was possible. His bill would be included in mine, but my bill would be itemized with a statement of the proportion for his services, and he would then not surrender his interest in the case, but would maintain a position which would be appreciated by the patient, who would have higher regard for him than otherwise. He finally consented to the plan, and it worked out as I had predicted, but was close to the danger line.

Some years ago I knew of an eminent surgeon giving a disproportionate "assistance fee" to a family physician. He was a generous man, and this was a thoughtless act on his part I am sure, as he was not the sort of man to leave a bad taste in the mouth of anybody.

As a matter of fact, in my own practice there have been so few proposals for rebating in the course of twenty-five years that I would hardly believe the custom to exist in New York excepting for reports to which one is bound to give some sort of credence.

Some years ago a doctor came on from Indiana with a patient for operation, stated that I could charge $1,000 for the work, and he would like $250 for his time and trouble. I told him there would be no objection at all so long as the patient understood it in that way; and he said that he could not allow the patient to understand it in that way because "the patient was a friend of his." Further comment on the subject of friends is unnecessary. It was impossible to make any arrangement by which I could do the work.

Every surgeon of established position has cases coming to him from all over the country, the patients often accompanied by their physicians, diagnosis all made, patients ready to pay liberally for the work, and yet it is found that many of the cases are not cases for operation at all, or they are cases in which operation would solve only a part of the problem. The patients often must be sent to other authorities, and the responsible surgeon foregoes his own fee entirely in order that the patient may be placed in proper hands. Surgeons who try to be responsible may not operate upon more than half of the patients sent to them, and who are ready for operation if the surgeon so decides. What are the chances of such patients at the hands of rebaters?

One experience in another part of the question came not long ago. A physician whom I had known in former years, interested in obstetrics, moved to my part of the city, and I sent him the first obstetric case in which my advice was asked in reference to an attendant. After the patient was delivered, what was my surprise one day to receive a check from the doctor for $50. The check was promptly returned with the statement that skilled ser-

vices were worth all or more than was commonly paid, without leaving any margin for other people. He has had no more obstetric cases referred by me, and whenever I pass him in the street it is with feelings of discomfort at my disappointment in him.

From time to time I heard that a certain member of the New York Surgical Society had been guilty of rebating, but I did not seriously consider any such report, which might be made carelessly. It was my impression that no man guilty of rebating could gain admission to the Surgical Society in the first place, and in the second place the influence and spirit of that association would be quite opposed to the development of any such trait. Two weeks ago, however, while at Ossining, a physician of that town informed me that he had sent a case for operation to this surgeon, who had charged $1,000 for the work and had sent him a check for $300. The Ossining doctor promptly returned the check, although he really needed any nice little sum of this sort. Think of the temptation to honorable men in every part of the country offered by such an act. The surgeon in question was a man who had done brilliant and original work in his profession, but the poor fellow, from overwork, no doubt, was said to have acquired the morphine habit and it was this, presumably, which had made him lose caste, and to become careless in the moral side of his professional work along the well known lines of morphine influence.

When the optometry bills came up before various legislatures many members of the profession wondered at the success of opticians opposed to oculists, but the facts leaked out. Any oculist who has accepted a commission for spectacles is emasculated, and so many have suffered this accident that in our time of need at the state capitols there were not enough oculists with horns to protect the public, themselves, or the medical profession. Opticians were able to quietly show legislators that they were simply in "competitive trade" with oculists, and the legislators looked at the matter in that way. I know a man who has a pocketful of checks paid by opticians to oculists for commissions and endorsed by oculists or by secretaries of clinics. When the time came for attack upon an enemy, instead of roars of courage, and rending the enemy with vigorous horns, they could only butt the enemy with soft heads, uttering feeble squeaks.

Our calling is so high that very little deviation from the perpendicular destroys the center of gravity and creates a tangential thrust at the base.

We have known for some time that rebating occurs in some parts of Europe, and not long ago while at a hotel in a foreign city I informed the physician with whom I happened to be in conversation that it was my intention to proceed to the town of a certain surgeon in order to see his work. In a perfectly matter of fact way he replied: "Oh, yes, he does quite remarkable work, and only last week sent to me payment for a case which I had referred to him." On further conversation my plans to visit this surgeon were changed, as I could have no heart in his science after that. On further conversation the physician told me it was quite customary for him to receive payment also for cases which he referred to different sanitariums. I must confess to having had the feeling of the Pharisee, and was thankful to know that in our good country hotel physicians are still honorable men, and our sanitariums, at least those with which I am familiar, are interested in the welfare of the patient only, paying no commissions to physicians who refer patients.

The moment that secret division of fees enters, the whole principle of our relations toward the people changes as quickly as the vane on the church spire goes from west to east on the changing winds of a falling barometer. People are no longer objects of our scientific and heart-felt solicitude, but they become our prey, and the trusted family doctor becomes a tumble-bug wallowing in the carrion. He is no longer the man who in the interest of his patient makes us surgeons charge too small fees, but he uses the confidence of the people for the purpose of cutting out for himself as large a piece as possible.

In the circles of nobility in the medical profession I have always had a good deal of complaint to make against the family physician.

When an operation worth $25,000 was done he would make me charge $2,500 instead. If the operation was one in which $2,500 would have been a perfectly fair charge he would persuade me to charge $500.

It is easy to see how one might press a button and ring up a different sort of character in the doctor who guards the interest of his patient as a good lawyer protects his client in every point.

We must always keep in mind the etymology of the title "doctor." Finding the people ignorant, shall we teach them?—or finding the people ignorant shall we prey upon them?

The secret division of fees belongs to a beginning era of decadence, when the chimes are ringing for the closing exercises of families, and when the most beautiful apartments in the cities are built for the double roses of culture which are no longer able to propagate their kind; but thank God the ideals of our profession are ideals of intellect, ideals of character, ideals of utility and of goodness. We shall always have teachers at the head of the profession who represent such ideals, and there will always be a sufficient number of these to

inspire our young men. There will always be William McClures in abundance as well.

Perhaps this is a moment of great opportunity for our New York Academy of Medicine. We may be a little envious of Erie County for having made the first definite move in the way of setting standards and eliminating defects; but if at this opportune moment a representative body like the New York Academy of Medicine would arrange a plan for allowing men to register their opinions on the subject of secret division of fees, the ones who failed to register properly would make an easy classification, and in this way we could make the Empire City of the Empire State openly committed to sentiments which will influence the entire nation."

MUTUAL HELPFULNESS IN THE CONSERVATION OF PUBLIC HEALTH.*

By WILLIAM A. HOWE, M.D.,

PHELPS, N. Y.

MINDFUL as I am of your time limitations, especially this afternoon, I shall not detain you with introductory words, but pass promptly to my subject, deal with it briefly and invite for it your liberal consideration.

Though as a department we are enjoying a most pleasant relationship with the medical profession of the state, which we deeply appreciate, we are nevertheless conscious of the fact, that such relationship should be more practical, more mutually co-operative or reciprocal, more helpful one to the other and hence more conducive to our ideals of giving to the people of the state the most efficient service possible in matters pertaining to the conservation of their health. As a department we want to get nearer to you as practitioners and have you get nearer to us. We want you to feel that the department belongs equally as much to you, and is equally as much at your service, as to the health officer, who is the legal medium of distribution of supplies furnished to you and to the people, by the department. We are anxious to have you familiarize yourselves with the methods and resources of our department, particularly such of them as should be at your command. You should fully understand what we can do for you and your people, and how to set about to have it done. You should learn the conditions under which we furnish diphtheria and tetanus antitoxin, and culture tubes for diphtheria, Widal or ophthalmia neonatorum outfits, circulars of instructions on all communicable diseases, illustrated lectures or lecturers on popular health topics, medical officers or expert diagnosticians, sanitary engineers, etc., etc.

It is with these thoughts in mind, and with this desire, that I am prompted to appear before you to-day to briefly outline a few of the things which Commissioner Porter is desirious of doing for the practitioners of this state, and in turn to urge your cordial reciprocation by doing certain things for the department over which it is his honor to preside. As might well be expected there are certain financial and physical limitations to our resources. So far, however, as funds at our disposal and our working forces will permit, the department will welcome every opportunity to serve you, and through you the people of the state, in all matters pertaining to sanitation. Let me tell you of a few of the ways in which the department can be of assistance to you and to your families.

1. *Laboratory Diagnoses.*—The State Hygienic Laboratory through the medium of the local health officer is always at your service for diagnostic purposes and should be so utilized by you far more frequently than has been your custom in the past. There is probably no branch of the department in which we can render you such practical assistance as at the Laboratory. We can often settle for you a questionable diagnosis in diphtheria, tuberculosis, typhoid fever or cerebrospinal meningitis. We can tell you whether your suspect be a typhoid carrier or your municipal water supply is in a polluted condition. We can give to your local health officer such practical instruction in modern sanitation as will enable him to serve his people in a far more intelligent and efficient manner. In short, at the laboratory we can do much for you and for your people, and we court the privilege of doing it.

2. *Distribution of Diphtheria Antitoxin.*—Inasmuch as the fundamental principle underlying the policy of the department, is the conservation of public health, its commissioner is anxious that diphtheria antitoxin shall be liberally distributed and generously administered both as a therapeutic and prophylactic measure. While those who can well afford it are expected to purchase the remedy elsewhere, no case of diphtheria should be permitted to go unprotected for want of this remedy *par excellence.* The Commissioner has repeatedly ruled that a man earning only moderate wages, with a family to maintain should not be expected to pay $25 or even more for sufficient antitoxin with which to save the life of his child, and protect the other members of his household. Our 1,400 or more health officers throughout the state have been thus instructed and on request should gladly furnish this remedy to you for such purposes. Let me urge you to use the state antitoxin. Use it early, use it freely, and use it rightly and diphtheria will soon be stripped of much of its remaining mortality.

3. *Tetanus Antitoxin.*—That which has been said regarding the distribution and administration of diphtheria antitoxin is equally as true of tetanus antitoxin. While the greatest field of usefulness for this serum is as a prophylactic, several instances have been reported to us during

* Read before the Medical Society of the State of New York, at Albany, April 19, 1911.

the past year in which a favorable outcome followed its administration even after the invasion of tetanic symptoms. We are also anxious that you should employ this remedy in every case in which tetanus infection might have arisen. In every doubtful case give the patient its benefit. The remedy should always be at your service through the health officer, and all we ask is to have it so liberally administered as will spare the lives of those who are each year succumbing to its needless fatality.

4. *Ophthalmia Neonatorum.*—For nearly two years the department has been supplying to the medical profession and midwives throughout the state, ophthalmia neonatorum outfits to be used in all cases of childbirth. These outfits consist of a small vial of a 1 per cent. solution of nitrate of silver, together with a sterilized dropper. This effort to suppress ophthalmia neonatorum throughout the state, with its oft-resulting blindness, has been so generously supported by the profession that to-day it would appear that in practically all cases of childbirth either the silver solution or some other prophylactic is being employed. These supplies, like all others furnished by the department, should be obtainable by you at any and all times from the local health officer.

5. *Monthly Bulletin.*—Most of you have no doubt seen and read the *Bulletin* which is issued each month by the State Department of Health. So far as funds for that purpose would permit, Commissioner Porter has endeavored to send this official organ of the department to such physicians of the state as have expressed a desire to receive it. Were he able to do so, I am sure the Commissioner would be more than pleased to place regularly, a copy of this publication in the hands of every physician of the state, with a view of keeping them fully informed as to our activities, and further increasing their interest in our efforts along the lines of preventive medicine.

6. *Medical Officers, Expert Diagnosticians, and Sanitary Engineers.*—The department is in constant readiness to despatch to any community of the state one of its medical officers, or expert diagnosticians, or sanitary engineers, to study the origin of any localized outbreak of any communicable disease, or to render expert service in determining the true character of a disease under disputed diagnosis. These trained sanitarians can also render invaluable assistance to your municipality in other matters pertaining to public health. When in trouble or in doubt over local health matters, let me urge you to consult your health officer. If he cannot relieve the situation alone, let him ask the department to come to his and your assistance with one of its medical officers, its expert diagnostician, or its sanitary engineer. Do not forget that whatever resources are at our command are always at your service. You should know this and should feel at liberty to avail yourselves of them, not only for your personal advancement, but for the welfare of those whom you serve.

Now that I have told you a few conditions under which the State Department of Health can and would like to assist you, my story would be incomplete did it not mention certain matters in which we urge you to reciprocate.

First.—Improve every opportunity to thoroughly familiarize yourselves with such of the resources of the department as might be useful to you and to your people, and having done so utilize these privileges. Many valuable and precious lives are no doubt sacrificed in this state every year because the practitioner is either unfamiliar with his accessibility to these privileges, or because he refuses to avail himself of them. This should not be so, nor would it, except to a minor extent, were the medical profession of the state and the State Department of Health cooperating more closely and more extensively in a spirit of mutual helpfulness.

Second.—Faithfully support your local health authorities, particularly the health officer. It is easily within your power to make the local health officer one of the best, by assisting him, or one of the most unsuccessful in the state, by embarrassing his administration. While he is the chosen medium by which the department reaches the people, it should be clearly understood, by every physician in the state, that the services of the department are equally as much at his service and at the service of his clientage, as at the service of the health officer. You should regard the health officer as much at your service and at the service of your people, as you do any other public officer. At the same time you should consider it equally as much your moral duty, as well as a privilege, to do such as you can to contribute to a successful administration of the duties incident to his office. His relation to you in all communicable diseases should be that of the sanitary consultant or assistant, and your relation to him should be one of mutual helpfulness in all matters pertaining to the management of transmissible diseases. There is no reason why your interests should be divergent, neither is there any reason why you should not assist each other and far better conserve the health of the people, entrusting themselves to your care. As in the past, the State Department of Health will continue to exert its influence to cultivate and maintain such mutual relations between its health officers, and the physicians of the state, as will prove conducive to the most efficient service possible in all matters pertaining to public health.

Fourth.—Do such as you can to induce your best citizens and your leading physicians, to become identified with the local Board of Health, and by their activities to contribute to its successful administration.

Fifth.—Exert your influence, and that of your friends, to improve the general sanitary condition

of the community in which you live. Promptly notify the health officer of the prevalence of any unsanitary condition which may come under your observation, and whenever possible advise and assist him, as to the most effective means to employ to remedy the same.

Sixth.—By all means report promptly every birth, death and communicable disease which may occur in your practice. This failure on the part of the practicing physician, to report such cases, occasions one of the most serious embarrassments with which we meet at the department. This, on your part, I am satisfied is more a matter of habit than intention, in which case if you will only cultivate the *better* habit of making prompt and complete reports, you will materially lessen our troubles, and greatly contribute to the efficiency of the work of the department.

Seventh.—When a communicable disease has occurred in your practice, and you have reported the same to the health officer, unite with him in such sanitary management of the case as will insure to the public the greatest possible protection from further contagion or infection.

Eighth.—Communicate with the department regarding any obscure case which may come under your observation. You may be sure we will be interested in it, and if we cannot assist you ourselves, we may be able to refer you to some one who can. Feel privileged to offer suggestions to the department, not only relative to local health matters, but such as may pertain to general sanitation.

Ninth.—When in Albany call at the department, or at the State Hygienic Laboratory to get acquainted with us and the products of our laboratory. You will always find a welcome at either place, and so far as it may be possible we will serve you for the one great purpose for which the department is maintained, the conservation of the health of the people of the state. Do not be reluctant to ask questions, as they are the greatest possible means of imparting and receiving knowledge. Do not think that you are making us trouble, but that it is our desire to save you trouble.

In closing, my friends, let me appeal to you, the physicians of this state, to join hands with the State Department of Health in an evangelization of the health of our people. Let me urge you to unite your potential influences to the endeavors of the department, to accomplish that which Osler so graphically portrays in his "Man's Redemption of Man." Let us in our united strength raise a standard of sanitary living so lofty, yet so simple, that even the humble subject in following its precepts may find health and happiness. Let us in our combined energies insure to the people of this state one of the most efficient health services in the world, but let us appreciate that a realization of such idealistic conditions, can be made possible only by an enthusiastic co-operation between the practitioners and the health authorities of the state. Let us remember that the greatest and most fruitful reciprocity of mankind, is that which has for its sublime purpose the conservation of human life. We, as a department, pledge to you and to the people our untiring devotion to obtain this purpose. But to accomplish it, we must have the solid medical profession with us. Will you come?

GANGRENOUS APPENDICITIS SECONDARY TO PUERPERAL SEPTICAEMIA.

By CHARLES C. ZACHARIE, M.D.,
WHITE PLAINS, N. Y.

It is not the purport of this paper to reiterate on the well-known subject of appendicitis and its treatment, but merely to state the facts of this one particular case which extended over a period of nearly two months with complete recovery aided by serum treatment.

Mrs. B., a young woman of 19, gave birth to a child on April 21, 1911, this being her second child born in two years and labor very difficult in both instances, on account of a justo minor pelvis. Both children were males and are in perfect health. The case which I am about to describe was a breech presentation with forceps delivery on after coming head, both arms were extended above head, child was delivered in the usual way, weighing nine pounds, with slight laceration in left vaginal wall which was immediately repaired. She did fairly well until the fourth day of her delivery, as temperature chart will show, when temperature started to rise, followed with chills and rapid pulse, foul odor from vagina. Stitches were removed from laceration and vaginal douche of lysol given. Temperature subsided to normal but shot up on following day, rising and falling, as chart will show, uninfluenced by treatment of any kind. There were no signs of any general or localized peritonitis and no pain or tenderness anywhere. Blood culture negative and blood count normal. Again, after many days of high temperature with morning falls, on the morning of the 6th of May the temperature reached normal, just fifteen days from birth of child. Patient seemed fairly well until May 12th when she complained of pain in right side region of right ovary, no distension or rigidity. Vaginal examination showed some slight tenderness in region of right tube and ovary and palpation on abdomen over that region showed pain and tenderness on pressure, unable to feel any tumor. On the evening of the 13th of June patient had violent chills and temperature reached 105, a small mass developed in right side region of uterus. Ice bag was applied and on the morning of the 14th, temperature being 105 and pain and tenderness quite severe, I had patient removed to the White

Plains Hospital, and it was decided to do an exploratory operation, the abdomen being opened in the median line. I found the uterus and its appendages in perfectly normal state. The appendix being next in line was found in a gangrenous condition just about to rupture. I removed same and put in a small cigarette drain down to stump of appendix and closed wound in the usual way. Drain was removed on third day and temperature subsided to 99 on the fifth day following operation. Stitches were removed on the seventh day, wound healing by prime union on the 20th of May, six days following the operation. Temperature rose to 106 with chilly feelings and rapid pulse, abdomen was absolutely flat and no vomiting or other signs of peritonitis, either local or general. Blood count 9,500 and blood culture negative, no malarial plasmodium, as chart will show. Hypodermic injections of quiniæ were given, also streptococcus serum, sixty million units being given of the serum, without effect. At noon on May 26th temperature again rose to 106. Examination of abdomen was negative. On examination of vagina a mass was felt in left latral wall which was thought to contain some localized focus of pus, although it was not tender to touch nor did it cause pain. A second operation was decided upon, as blood count showed 23,000, blood culture negative. An opening was made in left latral wall of vagina about three inches long and a small tumor, about size of a lemon, was removed; no pus or broken-down tissue was found. I had the pathologist examine the tumor and it was found to contain unstriped muscle fiber and diagnosis was myoma, a most strange location for such a growth. The wound was packed in the ordinary way, packing being removed on the fifth day and was allowed to heal by granulation which it did in a short time. The temperature still remained high and at noon, on the 27th of May, it reached 106⅗. A leucocyte extract was procured at the College of Physicians and Surgeons, New York city, through the kindness of Dr. J. G. Dwyer, and was administered to her in 10 c.c. doses hypodermically in lumbar region of back and thick part of buttock. The blood count was w.b.c. 23,000 before first injection. After three injections blood count was again taken and showed w.b.c. 11,300, a decrease of 11,700 in w.b.c. Six injections of 10 c.c. leucocyte extract were given, temperature falling by lysis and again reached normal the 5th of June, where it remained. Patient left the hospital five weeks from day of first operation in perfect health.

This case, in my opinion, is most interesting on account of excessive high temperatures and final recovery, and proves conclusively that the leucocyte extract used reduced the blood count and caused the temperature to fall to its normal level.

Medical Society of the State of New York

MEETING OF THE COUNCIL.

A regular meeting of the Council of the Medical Society of the State of New York was held at 17 West 43d Street, Friday, May 19, 1911. Dr. Wendell C. Phillips, President, in the chair. Dr. Wisner R. Townsend, Secretary.

The meeting was called to order at 6 P. M.

Present: Drs. Wendell C. Phillips, R. P. Bush, William F. Campbell, A. A. Gillette, W. S. Gleason, Alexander Lambert, T. H. McKee, G. C. Madill, Wesley T. Mulligan, William J. Nellis, L. H. Neuman, Frank Overton, Wisner R. Townsend, J. M. Van Cott and Sherman Voorhees.

A letter was presented from Dr. Walter W. van Peyma, First Vice-President, regretting his inability to be present.

The minutes of the last meeting were read and approved as read.

The report of the Committee to Consider the Question of Increasing Interest in the Society, which was referred to the Council by the House of Delegates, was then presented by the Secretary. On motion duly seconded and carried, the reading of the report was dispensed with.

Moved by Dr. Voorhees, seconded by Dr. McKee and carried, that 1,000 copies of the last portion of the report be printed.

The Treasurer reported that the bank balance was $10,117.97.

Moved by Dr. Gillette, seconded by Dr. Neuman and carried, that the following resolution of the Medical Society of the County of Erie, which was passed by the House of Delegates of the Medical Society of the State of New York and by it referred to the Council, be referred to the Committee on Legislation for report at the next meeting:

WHEREAS, In the larger cities in the State of New York nearly half of the births are attended by midwives, many of whom are wholly untrained for the responsible work which they assume, be it

Resolved, That the Medical Society of the County of Erie favor the adoption of an educational standard similar in character to that which is now provided for trained nurses, and that it recommends that the state medical society take such action as may lead to the establishment of a standard, the requirement of adequate examinations, with universal registration of all midwives practicing in this State.

Five members were nominated for the Committee on Publication, and on motion of Dr. McKee, duly seconded and unanimously carried, one vote was cast and the following were declared duly elected:

Drs. H. A. Fairbairn, S. E. Getty, Alexander Lambert, S. W. S. Toms and Wisner R. Townsend.

Dr. Nellis, Chairman of the Committee on Arrangements, presented the following names for election as members of his Committee, and upon motion, duly seconded and carried, they were declared duly elected:

Drs. A. W. Booth, Erastus Corning, S. G. Gant, A. G. Root, H. L. K. Shaw and E. A. Vander Veer.

Dr. Neuman, Chairman of the Committee on Scientific Work, presented the following names for election as members of his Committee, and upon motion duly seconded and carried, they were declared duly elected:

Drs. H. L. Elsner and T. J. Harris.

Dr. Bush, Chairman of the Committee on Legislation, presented the following names for election as members of his Committee, and upon motion duly seconded and carried, they were declared duly elected:

Drs. Lewis K. Neff and Charles R. Barber.

Moved, seconded and carried, that a Committee on Prize Essays be appointed, to consist of three members. The President appointed Drs. Albert Vander Veer, J. F. W. Whitbeck and E. D. Fisher.

The following proposed amendments to the Albany County By-Laws were submitted:

Whereas, Chapter 2, Section 1, of the General By-Laws makes ineligible for membership physicians whose affiliation is desirable by the Society,

Resolved, That Section 2 be amended to read: "Directors and Assistant Directors of regularly instituted Laboratories, Medical Superintendents of Hospitals, Medical Officers of State Institutions, and Medical Officers of the United States Army, Navy and Public Health Service are eligible to membership.

Moved by Dr. Voorhees, seconded by Dr. Lambert, that the amendments be disapproved.

In response to letters read from the Medical Society of the County of Saratoga, the Business Men's Association and the Publicity Commission of Saratoga, asking the co-operation of the State Society in securing the next annual meeting of the American Medical Association at Saratoga, the following resolution was offered:

Resolved, That the Council approve of the efforts of the Medical Society of the County of Saratoga to secure the meeting of the American Medical Association in 1912.

The motion, when put to vote, was lost.

The Secretary read a letter from President Butler, acknowledging the receipt of the resolutions passed by the State Society in regard to the Optometry course now being given at Columbia University.

Dr. Bush asked advice on proposed legislation relating to medical examinations.

Moved by Dr. Van Cott, seconded by Dr. Campbell and duly carried, that the plan for the annual meeting as outlined by the President, Dr. Phillips, be adopted.

Moved by the President, seconded and carried, *First.*—That the program consist of a three days' session covering the official business of the House of Delegates and the Scientific Program; *Second.*—That there be from four to six sections; *Third.*—That the President be given the power of appointing the officers of the sections, subject to the approval of the Committee on Scientific Work.

There being no further business to come before the Council, the meeting adjourned at 7.30 P. M.

DISTRICT BRANCHES.

Annual Meetings for 1911.

First District Branch—Thursday, October 12th, in Yonkers.

Second District Branch—Thursday, October 26th, in Brooklyn.

Third District Branch—Tuesday, October 3d, in Kingston.

Fourth District Branch—Tuesday, October 10th, in Ogdensburg.

Fifth District Branch—Thursday, October 5th, in Utica.

Sixth District Branch—Tuesday, October 17th, in Elmira.

Seventh District Branch—Thursday, October 19th, in Rochester.

Eighth District Branch—Tuesday and Wednesday, September 26th and 27th, in Dunkirk.

COUNTY SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF ERIE.

Regular Meeting at Buffalo, June 19, 1911.

Business Session.

Dr. George L. Brown, Chairman of the Board of Censors, presented a report of the Board's activities during the past three months. One Consatino was convicted of illegally practicing medicine, fined $25 and placed on six months' probation. A warrant for illegal practice was sworn out against Fannie Ciresa, who left town before it could be served. Dr. Lucius Auld was fined $10 for not being legally registered. Abraham Simon was fined $50 for vaccinating children without having a license to practice. Solomon Meseroff, of Chicago, Ill., owner of the Porter Medical Co., was arrested for illegal practice of medicine and placed under $500 bond to appear for trial.

Memorials were adopted on the deaths of Drs. Frank B. Seitz, William Warren Potter, George Abbott and Carlton C. Frederick.

Dr. Edward E. Haley, Chairman of the Committee on Contract Work, presented the following report which was adopted, and, owing to the general practice of the evils complained of, was ordered printed in the New York State Journal of Medicine, so that other county societies might co-operate with a view of remedying conditions.

THE EVILS OF THE CONTRACT SYSTEM.

Mr. President and Gentlemen:

The Committee appointed to investigate contract-work wishes to report the result of its investigation up to date, and the remedy which it deemed proper that this Society should adopt in order to eradicate this evil. We had not proceeded very far in our investigation before we became aware of the fact that "something" was "rotten in the State of Denmark." We found this evil to be so widespread as to necessitate careful and close analysis, making it impossible for the Committee to hand in a complete report at this meeting. From the data which came under our observation, we estimate conservatively that at least a hundred and fifty thousand people in this city alone are entitled to professional services under inethical contracts. I say that our work is incomplete, made so by the magnitude of the evil, and the length of time at our disposal in which to cover it. But in justice to this Society, we cannot offer any report without giving a specimen of the despicable. penny-contracts held by many of the physicians of Buffalo. The following section relative to the duties of the physician taken from the By-Laws of an organization known as the Fraternal Order of Eagles, is self-explanatory.

Section 1. It shall be the duty of the Aerie physician to attend, prescribe for, and perform such surgical work as may be necessary, on all members of the aerie in good standing and their respective families, also all visiting members and their families without extra charge, except in cases of confinement and primary venereal or chronic diseases, or disabilities existing at the time the member made application for membership.

There are two other organizations which offer contracts similar to the above that came under our notice. These organizations are known as the Loyal Order of Moose, and The Fraternal Order of Orioles. All these organizations exist throughout the country. We found that there are a number of other fraternal insurance organizations which offer contracts of a like nature operating in this city. Among these are The American Order of Foresters, The Order of Red Men, The Maccabees and various other societies with peculiar appellations. We found that certain liability insurance companies have physicians under contract to care for their policy-holders in case of injury. These physicians are paid a miserable pittance, primarily, to co-operate with the insurance companies against the poor, unfortunate who unknowingly gets into the web which the greedy, cunning, and malicious spider has so craftily and slyly woven around him. This insectivorous professional co-operates with liability insurance company at the expense of the innocent and trusting patient to prevent liability. This, in my opinion, is an offense which should be punishable by law.

We found that a number of the large corporations of this city have fostered a movement of their employees to form associations which are supported by regular weekly assessments, primarily, for their own benefit, and, secondarily, for the benefit of their employees. The employee is the actual supporter of this association while the employer receives the greater part of the benefit. By this arrangement, the employer undergoes no inconvenience. The association supports itself. It hires a physician not only to care for its members when injured while at work, but also arranges to have the physician care for any of them for any physical disturbance which may arise during the time of the contract. In some cases they have hired the physician at a regular monthly salary to care not only for themselves, but for their families as well. They have had no difficulty in securing the services of a physician to engage in this admirable, lofty, and sublime work. Of course, the corporation sees to it that one friendly to its interests secures the position. It is absolutely necessary for the corporation to secure the services of an "Honorable man" to perform the duties of this high office. He must work for the interest of the corporation and against the interests of the employees. Whenever there is an injury to any of the employees, the actual supporters of the physician, he must have the welfare of the corporation at heart, and do his best to prevent litigation. What a fine clock-wheel arrangement this is!—the corporation works its employees, the employees work the doctor, the doctor works the corporation, and they all work one another.

We found that practically the entire Italian male population of Buffalo is entitled to medical services under cheap contract, and that the doctors holding these contracts, in some cases, are caring for the families at cut-rates, and a few are giving medicine free of charge. This system has grown from bad to worse. As the field of competition increases, the younger physicians who are from year to year graduating from medicine, are taking up the work more cheaply than their predecessors. What is the result of this mad competition? The physician has thrown off the dignity of his profession and has stooped down to the acceptance of a mere pittance as compensation for his professional services. Of course, the number of patients he must call upon is great, and he cannot, therefore, render to each individual the medical attention required, for he must "Be up and doing," as he must utilize every minute to the best of his personal advantage. Under such a system, there is no incentive to do good work. The people do not realize their danger, and something must be done to educate them to the fact that, far from gaining any salutary advantage, they are committing the greatest folly. The doctors of Italian origin who are holding these contracts realize their mistake, and have given the Committee to understand that they would only be too willing to give up their contracts were it not for the fact that they fear that some of the American doctors would only too readily take up the work which they should abandon. Such is their plight, and, if these men make the sacrifice of their penurious positions, this Society must do all in its power to prevent the niggard and avaricious medicaster from taking their place. Among the Polish population, the same system is in vogue, but we are not prepared to state the extent of it in this report.

Another phase of this work was brought to our attention. We learned that a large number of the department stores and other business places have associations which contract with the physician in the same manner. Indeed, this system has become so widespread that even a number of the labor organizations have adopted it as "a good thing." In the same manner, and at the same price, they hire the same kind of a doctor, undoubtedly unconscious of the fact that they are catering to a scab.

A certain institution which advertises itself as a hospital, engages in wholesale contracts for an infinitesimal amount, to care for its policy-holders who may be individuals or families for any illness of any nature whatsoever. This institution has a dispensary where colored solutions under alphabetical labels are dispensed by an undergraduate. We have learned of still another method of securing "The almighty dollar." We learned that a certain Doctor Richardson, whoever he may be, and twenty other misleading physicians of the United States have prepared a very grandiose and elaborate work which they are handing out at the rate of ten dollars per copy, and charging two dollars extra which entitles the holders of the certificate to free consultation for a period of two years. There is a co-operative plan of procedure between the local representative agent of this erudite organization and a certain leading drug store which enables them to most thoroughly complete the chain of their depredations. While this very idea smacks of the rankest quackery, yet, it is no worse than some of the other cheap contracts held by supposedly regular men. The only difference between them is that one is direct while the other is an indirect mode of procedure.

Another form of contract considered by your Committee is one which shall tax the efforts of that Committee to obtain evidence. It was mentioned that some physicians are in the habit of contracting with their patients prior to their illnesses for sums varying from ten to one hundred dollars annually. If such practice is in vogue, it must be most heartily condemned. This gambling game deserves the severest criticism. The physician who practices it is unscrupulous and mercenary. It is an imposition upon society, and, like all other inethical contracts, must be stigmatized with the utmost opprobrium.

We found that each railroad entering Buffalo has its surgeon under annual contract to care for its employees, or any one except a trespasser who may happen to be injured. We do not know the salary paid to these surgeons, but we understand that it is comparatively small for the services required. The action of the Committee in attacking the contract-system must not be misunderstood. We do not care whether the physician is overpaid or underpaid. We are attacking it because the principle underlying all, it all is inethical, unjust, and, in every case, injurious to the profession in general. The surgeon who holds a railroad contract holds it with the proviso that he co-operate with the railroad and work against the interests of the poor unfortunate who happens to come under his charge, This is, of course, a good thing for the railroad, a nice thing for the surgeon, since it nets him a yearly salary, but a very bad thing for the public. We found that, undoubtedly, this particular form of contract is the grandparent of the rest. In justice to our sense of fairness we could not possibly take any action against the small offenders without attacking these polished violators of the ethical laws who are seemingly responsible for all the others.

We believe that the above covers concisely the whole of the contract-system. The causes of these existing evils were offered by the Committee, and are as follows:

First—Lack of knowledge of the ethics of medicine.

Second—Professional jealousy.

Third—Indifference of the older practitioners.

Fourth—The example set by some of the older practitioners.

Fifth—Overcrowding of the profession.

Sixth—The tolerance of this state of affairs by all medical societies.

Seventh—The commercialism of the age. The professional struggle not only for the "Almighty dollar" but also for the mite(y) cent.

Eighth—The chief and absolute cause of all, however, we found to be the complete disorganization of the medical body. This last cause, which is the absolute and the cause *a priori*, is the one to which we must give our attention, namely, the disorganization of the medical body.

This evil has been growing insidiously in all its various forms for some time, and has been passed unnoticed by the powers which should have throttled it in its infancy. It may be that the older members of the profession have been swollen with pseudo pride, deeming such consideration beneath their dignity, or it may be

that they have had no idea of the extent or character of this pernicious evil. Be that as it may, our investigation has disclosed a state of affairs tolerated or disregarded by the medical fraternity which should never have been permitted to exist. When the true state of affairs was brought to the notice of your Committee, some were in favor of adopting extreme measures, but the more conservative element prudently advised the adoption of persuasive measures. The first action of the Committee was to send out return post cards to every member of this Society. As each member received one of these cards, you are all aware of its contents. In the short interval of ten days two hundred and twenty-five cards were returned—all save three of which were in favor of this movement. The three cards against it bore no signatures. At the subsequent meeting of the Committee such happy returns as this showed us that the profession was alive, and, from the remarks on some of the cards, heartily willing to co-operate with the Committee. The cards against this movement were without signatures, so that whatever opposition there is to it comes from those who have not the courage of their convictions. A second notice was sent to all those members who had not returned the card, reminding them that they had either overlooked or misplaced it, and up to the present date we have three hundred and twenty members of this Society pledged to support this movement. We are aware of some few men who are opposed to it, but only one of them has had the courage to sign himself against it. The Committee charitably refrains from mentioning his name.

In the short time that this Committee has had to act, it is sorry to say that it cannot offer a more complete report. Your Committee shall not spare its efforts until every man is located who has the audacity to stand for such a system as has been brought to your notice. While almost two-thirds of the members are pledged to this movement, there yet remain about two hundred who have not stated their position, and the Committee shall continue its investigation until every member has taken a definite stand. We believe that after every one who has not answered has been interviewed, there will be very few in the opposition. As the Committee has been very conservative in the measure it proposes to adopt, it hopes that it will be heartily approved by this Society. Many radical suggestions were offered, but, after much deliberation, it resolved to adopt the following:

"*Resolved,* That the proposed amendment, if adopted, shall not apply to present contracts, but shall prohibit any extension or renewal of the same—except by action of the Society, at a regular meeting, upon request of the interested physician.

"Add a section to Chapter II of the Constitution and By-Laws to be known as Section 13, and to read as follows: No one shall become a member of this Society or continue as such who engages in contract-work, unless it be governmental in character, but this shall not prohibit an agreement for a particular case nor apply to examinations for an adequate fee."

We further recommend: *First*—That the President appoint from time to time at his own discretion special committees to use their influence on any man who continues this inethical practice, whether he be a member of this Society or not.

Second—That a special committee be appointed to confer with the membership committee to devise ways and means to get all desirable men in this Society.

Third—We recommend that the proper authorities of this Society bring this matter to the attention of the State Society for the purpose of gaining its support.

Fourth—That this Society meet more frequently, that its members become more united, and that self-interests be put aside for the common good of all.

We feel that the above resolution, amendment and recommendations are not too radical. The various faddists, quacks, pseudo scientists and charlatans are the sins of our neglect. Are we going to commit more sins of omission? The evils dealt with in this report and practiced by the supposedly regular members of the profession should not be tolerated any longer. We must separate the inethical from the ethical practitioner. We must ostracize him as we have the advertising quack. Nay, we must do more. We must use antagonistic measures if persuasion fails to convince him of his error. The methods of antagonizing him have been discussed by the Committee, but it is not our purpose to speak of them in this report. We address ourselves so strongly because we feel sure that after all the cards have been returned, there will be very few offenders left. To these men we offer fellowship, not only in this Society but through it, also to the Society of the State and Nation. The membership of this Society consists of practically all the physicians of Erie County. Many of the men who do not belong to this Society are those who have graduated from medicine within the last few years, and most of these can be easily induced to become members.

The above is the situation which is now confronting us. It is high time for us to separate the sheep from the goats. If medicine is a profession, if it stands for something more than mere commercialism, if it possesses every quality that is honorable and noble, then, we should do nothing to degrade it. We should rather raise it until it has reached the climax of ethics, and its standard has become the highest obtainable. But this can never be accomplished by suffering the contaminating presence of men who engage in degrading work to remain within this or any other medical body. If there be any set of men who wish to continue this debasing practice, let them be separated from those who have enough principle and honor to deem such work beneath the dignity of the medical profession. We therefore recommend that this Society use every possible effective measure to bring this about, and purge itself of all those who are unworthy to be regarded as its members. We have not been guided by animosity nor actuated by malice in arriving at our conclusion. We have no feeling of resentment toward any man. We have consistently considered big and little offenders alike. We believe in the utmost charity to all, for even your Committee has among its members men who are or have been violators. Yet, in justice to our profession, besmeared in the mire of commercialism, we have been compelled to suggest the proposed amendment. With the confidence of honesty, we submit it for your consideration, knowing that the urgency of the situation demands every honorable man's support.

Edward E. Haley, *Chairman;* Albert T. Lytle, Charles R. Borzilleri, Harry R. Trick, Francis M. O'Gorman, Francis E. Fronczak, Lesser Kauffman, Arthur R. Gibson, Edward E. Koehler, Franklin C. Gram, Arthur C. Schaefer, Harry N. Feltes, Edward Clark, Marshall Clinton, Charles A. Wall, Hugh J. McGee, A. L. Benedict, Marcel Hartwig, Patrick J. Hurley, Henry J. Doll, Wilhelm Brauns, Edmund P. Reimann, Jacob W. Bayliss, William J. O'Donnell, Frederick Frisch.

A resolution from the Medical Society of the County of Dutchess requesting the State Society to look after violations of medical laws in the various counties was disapproved, for the reason that each county society is better able, for many apparent reasons, to prosecute such violations.

A committee was appointed to represent this Society at a hearing before the City Council and oppose the repeal of the compulsory vaccination ordinance.

SCIENTIFIC SESSION.

"Treatment of Syphilis," W. W. Quinton, Buffalo.

Dr. R. O. Meisenbach of Buffalo presented and explained an apparatus for the measurement of spinal curvature.

After the meeting adjourned a collation was served.

MEDICAL SOCIETY OF THE COUNTY OF FRANKLIN.

SEMI-ANNUAL MEETING AT RAY BROOK, JUNE 13, 1911.

The following resolutions from the Medical Society of the County of Dutchess were read:

"At the regular meeting of the Medical Society of the County of Dutchess held April 12, 1911, the following preamble and resolution were adopted: and on motion, duly seconded and carried, were approved by the Society.

"WHEREAS, We consider it impracticable and impossible for the average sized county medical society to secure the enforcement of the laws regulating the practice of medicine,

"*Resolved*, That our delegates to the State Society be directed to bring this matter to the attention of the House of Delegates with the intent that the enforcement of such laws be assumed by the State Society,"

SCIENTIFIC SESSION.

"The Small Community Hospital," A. H. Garvin, Ray Brook.

"The Present Status of Salvarsan Therapy," C. V. R. Bumsted, Lake Placid.

"Laboratory Methods with an Explanation of the Wassermann Reaction," A. T. Laird, Albany.

Presentation of Specimens.

"Pneumonia," W. N. MacArtney, Fort Covington.

"Bermuda," C. E. Stickney, Constable.

"Mortality Statistics of Saranac Lake for 14 Years—From January 1, 1897, to January 1, 1911," E. S. McClellan, Saranac Lake.

CHENANGO COUNTY MEDICAL SOCIETY.

SEMI-ANNUAL MEETING HELD AT OXFORD, JUNE 13, 1911.

A resolution from the Medical Society of the County of Dutchess relative to instructing delegates to the meeting of the State Society to bring up the question of the assumption of the enforcement of the medical practice laws by the State Society was approved by the Society, which adopted resolutions similar to those of the Medical Society of the County of Dutchess.

SCIENTIFIC SESSION.

"The Significance of Uterine Hemorrhage," A. White-Marquis, Norwich.

"Exercise as a Therapeutic Agent," LeR. D. Farnham, Binghampton.

"Bronchitis and Bronchopneumonia in Infants," J. B. Drake, Norwich.

"Post-Graduate Medical Instruction in Vienna," E. Danforth, Bainbridge.

ONEIDA COUNTY MEDICAL SOCIETY.

SEMI-ANNUAL MEETING AT UTICA, JULY 11, 1911.

"Laboratory Technique in Preparing Autogenous Vaccines," F. R. Ford, Utica.

"Clinical Experience in the Use of Vaccine Therapy," T. Wood Clarke, Utica.

"Vaccine Therapy in Bone Diseases," C. H. Baldwin, Utica.

"Vaccine Therapy in Diseases of the Nose, Throat and Ear," Wendell C. Phillips, New York.

MEDICAL SOCIETY OF THE COUNTY OF DUTCHESS.

REGULAR MEETING AT PINE PLAINS, JULY 12, 1911.

Address of the President of the First District Branch, W. S. Gleason, Newburgh.

"Gastric Ulcer with Hemorrhage and its Treatment," J. E. Vigeant, Red Hook.

"Pneumonia and Its Treatment," J. M. Cronk, Hyde Park.

"Complications of Enteritis in Childhood," H. A. Gribbon, Poughkeepsie.

After the meeting a supper was served at the Barton Hotel.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

SEMI-ANNUAL MEETING AT SARATOGA LAKE, JUNE 14. 1911.

Vice-President's Address—"Arterial Change; Its Causes and Effects," A. S. Fay, Schenectady.

BOOK REVIEWS.

DISEASES OF THE HEART AND AORTA. By ARTHUR DOUGLASS HIRSCHFELDER, M.D., Associate in Medicine, Johns Hopkins University. With an introductory note by LEWELLYN F. BARKER, M.D., LL.D.; Professor of Medicine, Johns Hopkins University. 329 illustrations by the author. Philadelphia and London. J. B. Lippincott Company.

This is a quarto volume of 386 pages, including a good index and many illustrations in with the text, together with numerous plates. The typography is beautiful and the paper of the best quality. The book consists of a definition of terms, thirty-five chapters. and four appendices. The method of presenting the various topics, and their arrangement in relation to each other are direct and logical. The author is very terse and his style is charming. Every page of the book bears evidence of a wide clinical experience, coupled with more than ordinary power of observation and the ability to appreciate cause and effect. It would be difficult to find a book of similar dimensions with more pith and less circumlocution. Elaborate theories and technical methods are avowedly avoided; and the reader is held to the subject under consideration in a manner most calculated to be of practical every-day value. In fact, while this book is sound in its fundamental principles, it is inimitable in making what is commonly regarded as a technical subject available for any thoughtful practitioner.

After carefully perusing Dr. Mackenzie's book, the writer feels sure that another standard work has been added to the literature of medicine. J. M. V. C.

THE SURGERY OF CHILDHOOD, including Orthopædic Surgery. By DE FOREST WILLARD, A.M., M.D., Ph.D., Professor of Orthopædic Surgery, University of Pennsylvania; Surgean-in-Chief, Widener Industrial School for Crippled Children; Ex-President American Surgical Association, Fellow Philadelphia College of Physicians, etc., etc. With 712 illustrations —including 17 in colors. Philadelphia and London. J. B. Lippincott Company.

The surgical diseases of childhood differ from those of adults somewhat as their so-called medical diseases do; but these differences have not been so definitely

taught. Dr. Willard's book contributes a distinct addition to our knowledge on this subject.

He treats of a very wide range of subjects; he includes an extensive treatise on orthopædic surgery and also gives a routine consideration of the other surgical conditions which are found in the various regions of the body. In a book of 800 pages, it is of course impossible to consider minutely the pathology and method of occurrence of so many subjects, and the author does not attempt it. He, however, gives a general survey of his subjects and particularly pays attention to the method of treatment.

Dr. Willard's wide experience especially fitted him to write a book of this kind. His writing on surgical and orthopædic subjects were voluminous; and much teaching and writing and treating of patients give him a breadth of view which makes his book a most valuable one. The surgical principles which he enunciated are sound according to the present condition of surgical knowledge, and he has shown much poise and careful judgment in the selection of the procedures which he has commended. He is ever mindful of the capacities of growing children and strenuously advocates the environment which will best aid in their proper growth and development. He continually warns against the ill effects of delay in diagnosis and procrastination in treatment, believing that many unnecessary cripples are thus produced; particularly has he found that the wrong diagnosis of rheumatism has led to the unchecked and unnecessary progress of tuberculous joint disease.

The tendency of the book is orthopædic rather than surgical; for instance, he devotes 43 pages to tuberculous hip disease and only 1½ pages to tuberculous peritonitis, only five lines of which are given to the symptoms. He gives 3½ pages to "Sacro-iliac sprain" giving pictures of the adult cases who are most likely to be affected and only gives 6 pages to the consideration of Empyema, which is so important in children and in these six pages makes no mention of the progressing pneumonia which so often thwarts the surgeon, nor of the elements which should guide the surgeon in deciding on a course of procedure when the healing does not promptly occur. C. N. D.

Physiology and Pathology of the Urine, with Methods for its Examination. By J. Dixon Mann, M.D., F.R.C.P., physician to the Salford Royal Hospital, Professor of Forensic Medicine in the University of Manchester. With illustrations. Second edition, revised and enlarged. London. Charles Griffin & Co., limited. Exetor Strand Street. 1908.

This is a volume of 323 pages, including a good index. The arrangement of subject matter is logical and attractive. While the treatment is conspicuous for clarity and terseness. Most points have been avoided, and nothing seems to have been stated as a fact that does not stand the test of proof.

The work is replete with clearly demonstrated formulas and methods for general and special reactions which are welded into a concise and useful form for both the laboratory worker and general practitioner. Dr. Mann is to be congratulated upon having produced a book which is novel in construction, convenient for use and a valuable addition to the special literature of medicine. Every physician should have it who desires to keep abreast of modern thought in medicine.

J. M. V. C.

International Clinics, a quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pædiatrics, Obstetrics, Gynæcology, Orthopædics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners. By leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A. With the collaboration of Wm. Osler, M.D., Oxford; John H. Musser, M.D., Philadelphia; A. McPhedran, M.D., Toronto; Frank Billings, M.D., Chicago; Chas. H. Mayo, M.D., Rochester; Thos. H. Rotch, M.D., Boston; John G. Clark, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh; John Harold, M.D., London; Richard Kretz, M.D., Vienna. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Carlsbad. Volume II. Twenty-first Series. Philadelphia and London. J. B. Lippincott Company. 1911.

This volume contains sections devoted to medicine, surgery, obstetrics, gynecology, neurology, laryngology, ophthalmology and pathology. Among the subjects given chapters in the section on medicine, are constipation, the cultivation of medicinal plants, intestinal disease, mobility of the heart, trichiniasis, intestinal antiseptics, appendicitis, public health and preventive medicine.

The section on surgery has chapters on a number of timely topics. The intravenous administration of salvarsan is well described. An interesting collection of anomalies is presented in a chapter on curious obstetric happenings.

Neoplasms of the larynx, and refraction for the general practitioner are well discussed. An admirable chapter on the medico-legal significance of wounds closes the volume. N. T.

NOTICE.

The Rockefeller Institute for Medical Research, of New York City, announces that it will devote its resources very largely during the present season to the study of anterior poliomyelitis (infantile paralysis) and to the treatment of acute cases of this disease in its hospital. Physicians and health officers desiring to co-operate in this investigation may do so by sending information concerning the occurrence and prevalence of the disease, or by referring acute cases to the hospital of the Rockefeller Institute. Dr. Flexner renews his request of last year that whenever possible a portion of the spinal cord and of the naso-pharyngeal mucosa derived from fatal cases of the disease be sent to him. Specimens should be preserved in glycerin and sent by mail to Simon Flexner, M.D., 66th Street and Avenue A., New York City.

DEATHS.

Patrick J. Byrne, New York City, died August 3, 1911.
Sewell Mathewson, M.D., Brooklyn, died July 9, 1911.
Sidney Mitchell, Saranac, died July 13, 1911.

NEW YORK STATE JOURNAL OF MEDICINE

A Journal Devoted to the Interests of the Medical Society of the State of New York

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Vol. XI. SEPTEMBER, 1911 No. 9

EDITORIAL DEPARTMENT

THE GENTLE ART OF HECKLING PUBLIC SERVANTS.

BULL baiting and worrying the badger used to be popular amusements in Merrie England. Then came the Puritan revolution and the bulls and badgers enjoyed a respite. The steeple hatted reformers, however, were not to be denied their bit of sport. To be sure they didn't call it sport, for anything that smacked of gaiety or frolicsomeness was alien to their spirit and their ideas of a serious and religious life.

Nevertheless they harried the Malignants and the Quakers in England with zest, and even though they called it by another name enjoyed the game with great relish.

When we took over Cuba temporarily for the good of the Cubans, and the Philippines from similar altruistic motives, we sternly repressed their playful ways with bulls and game chickens. Of the humanity of our methods of transporting live stock across the plains and carrying chickens to market, the less said the better, if we would refrain from blushing. Still we are outwardly and properly virtuous in the matter of bull rings and cock pits and only suffer live stock to be tortured when it hurts our pocket nerve to be humane. Even in the matter of prize fights we exercise our inherited Puritan virtues and only allow them on the sly, when there is a great deal of money to be made by somebody and we gaze at the contest through our half opened fingers with pleasantly shocked amusement.

We are hypocritically and intermittently humane to our live stock but frankly and openly brutal to our fellow men who are doing their best to serve us. We are like our Puritan forefathers and protect fur, fin and feather, but hunt our brothers to the death. Three notable examples of this detestable habit have occurred lately, of which as a people we ought to be heartily and sincerely ashamed. When the pack in full cry succeeded in bringing down the chief forester, they slew a stag of ten. He was dismissed, subjected to capital punishment; nailed to the barn door like any corn stealing corbie crow and the unco guid and precisians rejoiced at the downfall of a public servant whose chief crime was his earnestness and zeal in preserving the public domains for public use, but he was overzealous and indiscreet and for this sin his skin adorns the barn door. He was only a trifling scientist and not much of a politician any how. A few months later came the decision which put heart into the vendors of quack medicine and the receivers of blood money and now the pack are in full cry again after the chief chemist. Horrible to relate, he has paid a distinguished scientist at a per diem rate in excess of nine dollars a day for doing important and difficult work and for this merits "condign punishment." No matter if there was precedent for the procedure, nail his skin to the barn door quickly to keep company with the corbie crow. It matters not that he has done more than any man of his generation to protect the common people from poisonous compounds and rotten food products. Show him no mercy. Quick with the knife, the nails and the hammer.

Shall our own Empire State lag in the rear when there is so much good hunting abroad? Perish the thought, and so the pack are in full cry at the heels of the chief sanitary officer of the port of New York, whose sins are many and must be investigated. His chief offense to be sure consists in the fact that he draws a salary and earns it. Somebody else wants it, therefore, nail his skin to the barn door.

The medical profession of the state are a unit in testifying to his extraordinary efficiency. There really doesn't seem to be any way to get rid of him decently. "Let's get up an investigation; we can't help finding something," so barks the pack. In politics it is good practice to make a mountain of a mole hill. A gentleman is straightway appointed as commissioner who forthwith proceeds to demonstrate his ignorance of the first principles of sanitation and utter

unfitness for his task by raising a shocked outcry at certain details of quarantine. To be sure prominent members of the medical profession agreed with the sanitary officer, but he thought he had a hot scent and promptly lifted up his voice to bay his game. We had the Asiatic plague on our threshold. The situation was difficult, even critical. Italy was pouring her surplus population into this country from infected ports. We had every reason to uphold the hands of our sanitary officer who had for years demonstrated his efficiency to the men who know, the doctors of the State of New York. However, a few politicians know better or rather don't care anything about the merits of the case nor the people's health. They want the job and the cash. So a faithful and competent public servant is heckled and harried at a time when he is straining every nerve in the discharge of a difficult and dangerous duty. It is of the utmost importance that his hands should be upheld at such a time. It is not an issue of local import; it is of national importance. Let cholera once gain a foothold in the city of New York and it will be almost impossible to prevent its spreading to other parts of this country. Let that once happen and no one can predict the loss of life, loss of money, loss of public confidence.

All these considerations seem of little moment to the politicians. Somebody needs the job, "Let us put in a new and untried man."

And there is but one hand between the knife, the skin and the barn door. It is to laugh. It is to weep. It is to be ashamed.

THE DISTRICT BRANCHES.

THE annual meeting of the State Society always has a crowded program. Even when the annual session was extended over two days and a half there was still a plethora of papers. Therefore writers of valuable and instructive articles ought to be willing to contribute to the meetings of the District Branches which are often as well attended as any single session of the State Society. It often happens that men can travel the usually short distance to the District Branch meeting who are unable to take a longer journey which often compels an absence from home of several days at a busy season of the year. All papers read at District Branches are published in the Journal and thus eventually reach the same readers as those read at the annual meeting. All the District Branch meetings are held in September and October. This means that there will be eight scientific sessions held in various parts of the state this fall to which all members of the various societies will be welcome. The importance and value of these meetings has hitherto been underestimated.

While primarily designed to afford members of contiguous county societies an opportunity to become better acquainted and to give them an opportunity to keep informed of the latest scientific developments, the District Branch organizations are of great importance to all members of the State Society, as the District Branch Presidents or Councilors form the Council of the State Society, which with the State elective officers has charge of the finances of the Society. The Councilors also act as a Board of Censors and report to the House of Delegates on matters referred to them. The Councilors are elected by the members of the District Branches.

All expenses of a Branch meeting are paid by the State Society so that in reality it is a state affair, and as the local profession always provides some form of entertainment, such as an auto ride to some historical or beautiful spot, a luncheon at a country club, or a visit to some local institution, the meetings are well worth attending apart from the scientific session, which is always of the best. Here local talent from the country district meets the specialist or consultant from the city, and the papers and discussions arouse keen interest and enjoyment. All the papers are printed in the Journal, which is always pleased to report what is done by New York state men.

An effort is made in each Branch to meet in a different city each year and to arrange the place of meeting so that it is accessible to all by the railroad. To do this, so that all can leave home, attend a meeting and return the same day, is not always possible, but in the locations selected for this year it can be done. The attendance at these meetings should be large, and now that the use of the motor car is so general many a trip might be planned that would include attendance at the annual meeting of the District Branch. The local profession will welcome everyone and all the meeting places are well supplied with comfortable hotels. The autumn is the ideal time for a tour. Be sure to allow sufficient time to travel leisurely and thus thoroughly enjoy Nature at its best. For preliminary programs see page 449. The places and time of meeting are as follows:

First—October 12th, at Yonkers.
Second—October 26th, at Brooklyn.
Third—October 3d, at Kingston.
Fourth—October 10th, at Ogdensburg.
Fifth—October 5th, at Utica.
Sixth—October 17th, at Elmira.
Seventh—October 19th, at Rochester.
Eighth—September 26th and 27th at Dunkirk.

W. R. T.

For preliminary programs see page 449.

Original Articles

REMARKS ON THE TREATMENT OF INTESTINAL TUBERCULOSIS.*

By SAMUEL GOODWIN GANT, M.D., LL.D.,
NEW YORK CITY.

BOWEL tuberculosis is incited by bacilli which reach the intestine through being inhaled; with the food; in swallowed sputum from an infected lung, or by way of the anus from scratching or unclean toilet paper. Consequently this affection may be *primary* or *secondary* and be the result of infection from either *bovine* or *human* tubercle bacilli, but the disease is secondary in the vast majority of instances.

Below are given the different varieties of tuberculosis and their relative frequency:

	Per cent.
(a) *Enteric* or *Superficial Ulcerative* type	53·9
(b) *Entero-peritoneal* or *Deep Ulcerative* type	26.9
(c) *Hyperplastic* or *Tumor-forming* type	9.6
(d) *Fibro-sclerotic* type	(Per cent. not given.)
(e) *Peritoneal* type	7·7
(f) *Glandular* type	1.1

The writer would have preferred to discuss the many interesting features connected with the symptomatology and diagnosis of intestinal tuberculosis, but the allotted time forbids and he will pass on to a consideration of the treatment.

Treatment.—The treatment of bowel tuberculosis is generally unsatisfactory because it often fails and when successful considerable ingenuity and patience are required to effect a cure, and there is always a possibility that recurrence may take place. Routine measures are impracticable because of the varying types and virulence of the infection, the fact that it is primary in one instance, secondary in another, and further, because it is often necessary to suspend the regular for a symptomatic treatment directed against a particular manifestation which has assumed sudden and pronounced importance.

Measures to improve the general health are of prime importance and should be put into practice at the earliest moment. These consist principally in removing the patient from disagreeable and unhygienic surroundings and placing him where he has cheerful companions, plenty of sunshine, fresh air, moderate exercise, diversion and where he can obtain an abundance of fresh milk, eggs and other suitable nutrient foods. It is also important to clothe the patient properly, have him avoid exposure, and to prescribe tonics or tissue builders such as Russell's emulsion of mixed fats and vegetable products, olive oil, egg-nog and cod liver oil preparations. When the patient is anemic and nervous, iron, strychnia and arsenic may be employed to advantage, alone or in combination with codein, guaiacol or creosote, when the patient has an irritable cough.

Medical agents are at times indicated in the *symptomatic treatment* of intestinal tuberculosis to relieve diarrhea, pain, hemorrhage, putrefaction and other manifestations of the disease, but should be employed with discretion, because they frequently destroy the appetite, interfere with digestion, induce intestinal catarrh and sometimes cause obstruction by the formation of enteroliths, particularly when bismuth or salol are used continuously in large amounts.

For controlling diarrhea opium is the remedy *par excellence,* because it diminishes the evacuations, relieves cramps and encourages sleep. The various preparations are serviceable, but powdered opium in from one-half to one grain doses, alone or combined with belladonna when there is enterospasm, affords the greatest relief, but it is curative only in so far as it gives the bowel rest and the lesions an opportunity to heal.

Numerous antiseptic and anti-putrefactive remedies have been prescribed in the treatment of tubercular diarrhea, but experience has demonstrated that they are ineffective for the reason that it is impossible to administer them in amounts sufficient to produce a bactericidal effect owing to their toxic and irritative qualities. The most reliable and generally used drugs of this class are calomel, bismuth, subnitrate, salicylate and carbonate, salol, betanaphthol, tannaform and, in suitable cases, dilute hydrochloric and sulphuric acids.

Styptic medicines may be prescribed but are rarely effective, except when employed in combination with opium. The most reliable and least harmful of the astringent remedies are lead acetate, gallic acid, tannalbin, ichthoform, subgallate of bismuth and silver nitrate, but the latter should be cautiously employed to avoid argyria.

Koch's tuberculin and different sera have been employed in the treatment of intestinal tuberculosis but the writer has never observed any improvement from them.

Irrigating Treatment.—Bowel flushing is beneficial in all cases of intestinal tuberculosis but gives better results in some than other forms, being more effective in the *enteric or superficial ulcerative* than in either the entero-peritoneal, hyperplastic, glandular or peritoneal varieties.

In the *entero-peritoneal or deep ulcerative* variety irrigation accomplishes less since all the tunics may be diseased, but is beneficial because it clears the bowel of irritating feces, discharges and toxins, attenuates and dislodges tubercle bacilli, minimizes the danger of mixed infection, increases local resistance and favors healing of the excoriated mucosa. Further than this the method is useless because it does not reach foci in the muscular and peritoneal coats.

The *hyperplastic (ileo-cecal) or tumor forming* type of the disease is improved by entero-clysis in so far as the accompanying simple or specific

* Read before the Medical Society of the State of New York, at Albany, April 19, 1911.

catarrh is concerned, and later, when the neoplasm degenerates and large crater-like ulcers are formed, to prevent toxemia and mixed infection and to arrest hemorrhage, and irrigation has about the same field of usefulness in the *fibro-sclerotic, glandular* and *peritoneal* varieties of intestinal tuberculosis.

There are no specific irrigants, consequently those effective in other forms of entero-colitis may be employed here. Flushing with water is beneficial, but when the irrigant has soothing, antiseptic, styptic or healing qualities, better results are obtained, but their chief usefulness is due more to their mechanical effect in ridding the bowel of toxin, acrid discharges, putrefying food remnants and foul feces than to their medicinal qualities. Injected cold (55° to 75° F.) solutions are disagreeable and often cause cramps, while warm or hot (100° to 115° F.) soothe the gut, diminish soreness, relieve enterospasm and are more effective because longer retained.

When there is exhausting diarrhea, copious bleeding and quantities of mucus and pus, the writer flushes the bowel every other day with silver nitrate, thirty grains to the quart, followed in a short time by a saline irrigation, to neutralize and remove any excess of silver, until frequency of the evacuations has been materially reduced and bleeding arrested, from which time the bowel is washed out daily with boric acid, 3 per cent.; ichthyol, 1 to 2 per cent.; balsam of Peru, 1 per cent.; permanganate of potash, 1 per cent, or protargol or argyrol, 5 per cent.

Olive oil, neutralol and liquid paraffin, in tablespoonful doses at night are often beneficial, but better results are obtained when they are combined with bismuth, aristol, salol or iodoform and are deposited warm high up in the colon in amounts varying from four to ten ounces, because they allay muscular spasm, protect the gut from irritation and favor healing of raw surfaces.

Irrigations often fail because the technic of their administration is not understood and the tube is permitted to curl up in the rectum or sigmoid flexure. Patients may be permitted to sit in the toilet or remain upon their back or side when taking an enema to evacuate feces, but irrigations designed for the cure of ulcers should be administered by the physician or a trained attendant. The simplest, quickest and most effective methods of filling the colon with fluid or oil, is to place the patient in the exaggerated knee-chest or inverted posture, introduce the sigmoidoscope and pour solution through it into the bowel, or pass full length a colon tube attached to a funnel and let it flow in gradually and then escape through the lowered tube or remain to be evacuated by the patient.

Topical Applications.—Tubercular ulcers of the sigmoid, rectum and perianal regions can be more satisfactorily treated than when higher up because topical applications can be made. When the ulcers are in the bowel, the treatments are made through the proctoscope by means of a cotton applicator dipped in a 20 per cent. solution of ichthyol and glycerine, balsam of Peru, argyrol, protargol, or a weaker solution of silver nitrate, when the lesions respond, but when they are sluggish or covered with flabby granulations, these remedies should be used very much stronger. Chemical caustics like nitric and glacial acetic acids should never be employed because they frequently extend to and destroy healthy tissue. Consequently when radical treatment is indicated, the electric or Paquelin cautery should be substituted for them. Perianal tuberculosis requires frequent cleansing and about the same topical applications, but when stimulation and cauterization aggravate the lesions or fail to improve the patient's condition, the lesions should be treated at least twice daily with a 10 per cent. solution of methylene blue or be covered with an emulsion of olive oil, Oi, bismuth ʒii, and orthoform ʒi, to allay pain and encourage healing.

Colonic irrigation and topical applications frequently fail because the fluid does not reach all the diseased gut. In these and in urgent cases, an artificial opening should be made high up so that *through and through* irrigation may be practiced, or the diseased gut should be resected or excluded from the fecal current.

Surgical Treatment.—Surgery is practiced in the treatment of intestinal tuberculosis more often than it was a few years ago and with better results. These operative measures have for their object (a) providing a means of through and through bowel irrigation; (b) putting the affected gut at rest, and (c) removal of the disease. The following are the procedures employed for these purposes:

1. Enterostomy and Colostomy.
2. Appendicostomy.
3. Cecostomy.
4. Gant's cecostomy with an arrangement for irrigating the large and small intestine.
5. Exclusion.
6. Resection and Amputation.

Enterostomy and *colostomy* are at present rarely resorted to because of the disgust which accompanies evacuation of the bowel through an abdominal opening, frequent irritation of the skin by the feces and discharge, occasional prolapse of the gut and finally because a prolonged and serious operation is required for closure of the artificial anus.

Appendicostomy has proven extremely valuable in the treatment of tubercular and other ulcerations of the large bowel since it makes thorough irrigation of the entire colon and rectum feasible. This procedure is often impracticable because the appendix is too short, strictured, otherwise diseased, the outlet closes subsequently, the appendix slips back into the ab-

domen or sloughs off through compression or impairment to its circulation during operation and because it is of no use in small bowel tuberculosis. The technic of appendicostomy by the writer's method is very simple and irrigation can be started immediately. The appendix is reached and brought outside in the usual way, its tip is excised, the stump is ligated around the irrigator with catgut, and it is held in position while the abdominal layers are closed. When the operation has been completed the intestine is flushed and the irrigator is closed with the attached stopper.

Cecostomy is indicated when the disease is confined to the large bowel, but is preferable to the operation just described because it is always effective and does not have its disadvantages.

In this procedure the anterior surface of the cecum is exposed, three purse-string sutures are introduced, the bowel is incised inside the suture line. Then the catheter is introduced and the stitches are tied, infolding the gut, which forms a valve around it to prevent subsequent leakage. The operation is then completed by introducing cecal suspensary sutures approximating the wound and closing the catheter with a cravat clamp after it has been attached to the skin by adhesive strips.

Gant's Cecostomy with an arrangement for irrigating separately or simultaneously the small and large bowel is the most satisfactory method of obtaining through and through irrigation because it enables the attendant to treat tuberculosis and other diseases with equal readiness when they are located in the large or small intestine or both, and to measure and have the solution retained as long as desired.

The operation has been performed many times; there has been no mortality nor unpleasant sequelæ and the opening has always closed spontaneously or after stimulating applications or cauterization.

Employing the irrigator the procedure is very simple, requires but fifteen minutes and the bowel can be flushed at once or later. Following exposure of the cecum, introduction of the anterior cecal purse-string stitches and incising of the gut as an ordinary cecostomy, the writer's entero-colonic irrigator is pushed across the cecum through the ileo-cecal valve and into the small intestine. The inverting or circular valve-forming sutures are then tied, the suspension stitches are introduced and the wound is closed about the irrigator by the layer method.

The instrument is made of rubber and metal but the former costs less and is more comfortable because of its pliability. The irrigator has two inner tubes and an inflating attachment which rests just beyond the ileo-cecal valve when in position. The connecting rubber tubings are opened and closed by cravat clamps, and the metal irrigator is retained in position by straps which pass from the attached rings around the body, while the rubber instrument is prevented from slipping out by an encircling adhesive strip fastened to the skin.

When the small intestine is to be cleansed, the irrigating apparatus is connected with the hard rubber projection at the end of the irrigator and the inflating bag is distended with air if the solution is to be retained in the small bowel, but when the colon is to be flushed, connection is made with the extension piece at the side and where both the small and large intestine are simultaneously washed out, both hard rubber connections are joined with the fluid container tubes.

The advantages of the writer's procedure are obvious, since it enables one to treat lesions in all parts of the small and large intestine.

The same solutions are indicated in "through" and "through" irrigation as have been recommended for flushing the bowel by way of the anus, but in both the position of the patient should be changed from time to time to make sure that the fluid reaches all sides of the diseased bowel.

Intestinal Exclusion, barring removal of the infected bowel, is the most satisfactory way of surgically treating tuberculosis, because it diverts fecal matter and discharges from the affected segment, thereby removing the main source of irritation and giving the bowel a chance to rest and heal. The writer has had occasion in a number of instances to verify the usefulness of this procedure in tubercular and other bowel affections.*

A segment of the intestine may be excluded by (a) *lateral anastomosis;* (b) *unilateral exclusion,* where the bowel is divided and closed above the disease and the proximal end joined to the gut below it and (c) *bilateral exclusion,* where the gut is severed and closed on both sides of the affected part and the upper extremity of the intestine is anastomosed with the sigmoid, rectum or other part of the healthy bowel below the infected foci. Exclusion is always beneficial, frequently effects a cure, avoids the disgusting features of colostomy, the dangers and complications of resection, and may be employed to advantage in all varieties of tuberculosis.

Resection and Amputation.—In aggravated cases of tuberculosis where the patient's condition admits complete removal of the infected bowel by *enterectomy, cecectomy, colectomy, sigmoidectomy* or *proctectomy,* according to location of the disease, affords the greatest opportunity for temporary relief or a permanent cure. In some instances multiple resection is indicated and it is necessary to remove small or large amounts of intestine, but even so, these patients withstand the operation as well as where resection is done for other affections. When the

* Gant: "Constipation and Intestinal Obstruction," 1909, p. 409.

patient is extremely debilitated, it is occasionally advantageous to short circuit the intestine and give the sufferer an opportunity to recuperate prior to excision.

In a few urgent cases following extirpation, the writer employed the Murphy button, but in most instances the through and through suture method was used both in lateral and end to end anastomosis.

In tubercular subjects, irrespective of where the principal foci are situated, the mucosa of the entire bowel is usually involved in a simple catarrhal or specific inflammation, and on account of this it is the writer's custom to join the proximal end of the divided gut to the lowermost feasible point of the intestine, particularly in tuberculosis of the lower ileum and colon.

Resections are possible to within an inch of the pelvic floor, but when the rectum is infected, resection and anastomosis frequently prove unsatisfactory. Because of this, mobilization of the abdominal segment and amputation of the diseased bowel followed by suture of the proximal end to the skin, is, in the writer's opinion, preferable. When from one to three inches of the lower rectum is involved, the gut can usually be freed, brought down, amputated and anchored with or without opening the peritoneum by means of *perineal* excision, but when the disease is located higher up, some surgeons do a *Kraske,* but this operation is dangerous because of the shock, and leaves many disagreeable sequelæ. The writer prefers *abdomino-perineal extirpation* when the upper rectum and lower sigmoid flexure are involved and approximation of the proximal end to the anal region, with preservation of the sphincter muscle, performed in two stages. The abdomen is opened, the bowel mobilized by division of the mesentery, superior hemorrhoidal artery and peritoneum, after which it is pushed into the rectum when the pelvic peritoneum and abdominal wound are closed. The patient is then placed upon the left side and the lower rectum freed through a posterior median incision, following splitting of the sphincter which is turned aside, after which the operation is completed by bringing the bowel down, amputating, suturing it to the skin and closing the wound following approximation of the sphincter ends.

Resection of the small intestine is much easier than that of the cecum, colon and rectum because the latter are closely bound down by their mesenteric attachment and extensive adhesions which characterize the disease in these segments of the bowel.

Excision of the cecum and extremities of the ascending colon and ileum for neoplastic (ileocecal) tuberculosis is not dangerous, but it is a tedious operation owing to the size of the tumor and the firm agglutination of its fibrous capsule to the abdominal wall, appendix, loops of intestine or pelvic organs.

In *anal* and *perianal* tuberculosis, extirpation of the disease is frequently to be discountenanced because it opens up the lymph spaces and through them the infection may extend rapidly, locally or generally and terminate the life of the patient. The writer first attempts to heal these lesions by the topical applications referred to above, and when they fail, the diseased area is burned with an electric of Paquelin cautery to destroy the foci and close adjacent lymph spaces. When stimulating and cauterizing remedies intensify the process the ulcers should be painted with oil and bismuth or methylene blue, 10 per cent.

The *prognosis* following resection and amputation in *hyperplastic* tuberculosis is very flattering and good results have followed these procedures in the *enteric* and *entero-peritoneal* types of the disease. But less is to be expected in the latter because the intestine is very much more extensively involved than in the neoplastic variety which ordinarily attacks but a single part of the gut and is less often accompanied by serious lung complications.

Some physicians decry surgery in bowel tuberculosis, but the condition of the patient as regards his strength to withstand it, should determine if an operation is best, and not the fact that he has a tubercular infection.

Nearly all subjects afflicted with intestinal tuberculosis have latent or active foci in the lung, which may become aggravated and cause the patient's death when ether is administered, and because of this the writer substitutes ethyl chloride or gas in the shorter and chloroform in the longer operations where general anesthesia is employed. In a few instances he has succeeded in almost painlessly performing appendicostomy, cecostomy, and short circuiting for the relief of tubercular and other lesions of the intestine by infiltration anesthesia, employing a ⅛ per cent. eucain solution or sterile water.

In conclusion, the writer would state that his results in this class of cases has been very much better since he began to regard and treat these patients on the basis of a *dual* infection by instituting hygienic and other supportive measures for the lung involvement and directly treating the bowel lesions by internal medication, irrigation, topical applications and operation when necessary.

Discussion.

Dr. James P. Tuttle, New York City: In regard to this paper, it is too important to pass over without a word being said, because tuberculosis of the bowel, especially the lower bowel has proved to be a very much more frequent condition in recent years than we had supposed. Certain conditions which we have attributed heretofore to dysentery and syphilis, have proved in many cases to be tuberculosis. Many of the old syphilitic strictures of the rectum and bowel have turned out to be rectal and perirectal tuber-

culosis, and by treating them upon the line of tuberculosis we have got much better results than upon the line of syphilis. All the writer of the paper says with regard to radical operations, extirpation of portions of the intestines for tubercular ulcers, I can heartily approve of. I have not had the temerity to do the radical operation of taking out the entire colon, as has been done by Mr. Lane. I have practiced for a number of years the same principle as our orthopedists practice in tubercular joints, that is, putting the parts affected by tuberculosis at rest, and have gotten some excellent results by establishing artificial ani on the right side near the cecum, and thus throwing the whole colon out of commission while we carry on local treatment. I have nothing to say with regard to the methods of Gant's local treatment, as those vary in almost all cases. If there is any reason for irrigating the colon from above downward to keep from carrying infectious material up into the colon, the same reason exists if you want to irrigate the small intestine, it being much better to irrigate from above downward and not from below upward, and we can make an enterostomy to guard against leakage the same as we can cecostomy or appendicostomy. The trouble with the latter operation in these tubercular cases is that a large percentage of cases of tuberculosis of the colon, especially in the cecum, involves the appendix itself, and the organ is not fit for an opening.

I want to relate an interesting case of this kind because we have not as much tuberculosis of the small intestine as is generally supposed. Last fall a woman came to me who had been treated for amebic dysentery for about two years. I found her suffering from tubercular ulceration of the rectum and sigmoid as high up as I could reach. I opened the abdomen to do a cecostomy, and found the appendix and cecum practically involved with tuberculous material, while the ileum did not have a sign of tuberculosis. There was no use in trying to do a cecostomy; it was a case of short-circuiting the fecal current. I brought the ileum down and slid it into the rectum, and after the operation that woman's stools were reduced from twenty-five a day to two or three a day. She had tuberculosis of the lungs. Her temperature went down after the operation, but about three months afterwards she developed active tuberculosis of the lungs and died. In this case I got an autopsy and here is the strange part; while this ileum did not have a particle of tuberculosis when I brought it down and implanted it into the rectum at the time, three months before, the tuberculosis had spread up into the ileum over the point of insertion into the rectum for about six inches, showing above the ileocecal is a protection against the ascension of tubercular processes, and I think we will find that the use of cecostomy, or better a right-sided artificial anus operation, followed by the local treatment of tuberculosis of the colon, will be probably as much as we will ever do surgically for tuberculosis of the colon in the future.

Dr. Martin Tinker, Ithaca: There are two points in regard to the technic of operating on these cases to which I desire to refer. In the first place, I was led to do an appendicostomy in a case a few months ago where I used the ordinary rubber catheter in place of a silver probe as advised by Dr. Gant, with satisfaction. In irrigating the colon there seems to be good evidence to believe that it is entirely feasible to use the colon or rectal tube. My X-ray man called my attention to this. In doing X-ray work in opening the large intestine, he found that by putting the patient in the knee-chest position, if you use the ordinary short nozzle, the bismuth emulsion which you use will work its way over the ileocecal valve, without the use of the colon tube. You can fill the large intestine without that, which is rather disagreeable to many patients.

Dr. Gant (closing): In regard to the doctor's suggestion concerning enterostomy, while I have performed a number of enterostomies, I must confess that to get satisfactory control over the opening is very different. It is bad enough to have a colostomy, where solid feces come two or three times a day, but I do not know of a more disagreeable thing than the dripping out of feces through the ordinary enterostomy opening, irritation of the skin and fat necrosis which ensues. The only advantage is that no danger is attached to the operation.

Dr. Tuttle spoke of the ileocecal valve as a protection. There is no doubt that in 85 per cent. of the cases the tuberculosis is located at the ileocecal region and involves both the ascending colon and cecum.

As to the differential diagnosis between tuberculosis and amebic dysentery, it is essential to get as good a history of the case as possible. Nearly all these cases are secondary to tuberculosis of the lungs. The general appearance of tuberculosis in a patient with amebic dysentery is different. While you may not be able to find tubercle bacilli in the stools, you will usually find amebæ, so that there is not much difficulty in differentiating between tuberculosis and amebic dysentery.

As regards what Dr. Tinker said about the use of the ordinary rubber catheter in appendicostomy, I have used it many times, as well as irrigation with the patient in the knee-chest posture for many years. I simply put the patient in the knee-chest posture and use a proctoscope, but it is essential to have the proctoscope long enough to get beyond the recto-sigmoidal juncture, and pour in the solution, or you can make use of Hanes' method of completely inverting the patient and filling the colon with fluid.

DEVELOPMENTAL DEFECTS OF THE ABDOMINAL VISCERA AND THEIR SURGICAL SIGNIFICANCE.*

By WILLIAM FRANCIS CAMPBELL, M.D.

IN the systematic examination of the viscera of some five hundred abdomens post-mortem, and the confirmatory evidence of the X-ray and clinical experience, the author is convinced that many conditions hitherto regarded as acquired are really congenital and that the abdominal viscera present a group of chronic pathological phenomena which are rationally explained by regarding them as developmental defects.

The abdomen is a center of developmental defects for the reason that here developmental maturity means not only growth, but migration. Here many of the viscera must shift their position before normal development is attained; and it is this process of shifting or migration of the viscera to their ultimate destination that offers the possibilities of many visceral defects.

As these defects are more carefully studied, and the pathological phenomena properly correlated, many conditions hitherto regarded as acquired will be properly classified under congenital defects.

Not only is faulty migration a factor in this group of defects, but there is also a postural fact which plays an important role.

In the process of evolving a biped from a quadruped, it is evident that the movable viscera must undergo definite alterations adapted to the new mechanical relationships.

Martin has recently reviewed these well known facts in comparative anatomy. He shows that in the lower animals all the viscera have loose attachments or mesenteries, and fall forward supported by the belly-wall acting like a hammock. In the erect posture of man, however, the hammock-like function of the belly-wall must be replaced by some substitute to meet the new mechanical conditions.

What change has the erect posture imposed?

Note first.—That "the liver, spleen, duodenum, kidneys, ascending and descending colon no longer have long mesenteries which allow them to fall forward to find their ultimate support in the belly-wall, but in the erect position these mesenteries have either been shortened or eliminated by direct fusion of the larger viscera with the posterior abdominal wall."

Note secondly.—That the function of the abdominal wall is no longer that of a hammock, but that of a corset.

The viscera in the erect posture are no longer to be suspended in an abdominal hammock, they are now to be maintained at their proper levels by an abdominal corset, and the interlacing muscular planes of the abdominal wall when properly developed form a corset-like support, admirably adapted to its purpose.

To note this corset-like support of the abdominal muscles it is only necessary to observe the abdomen of the athlete, and note that there is no protuberance below the umbilicus. It is a truncated cone, the wide inlet at the diaphragm, the narrow outlet at the pelvis.

Compare this normal abdomen with the "pot-belly" of enteroptosis. In proportion as the abdomen protrudes below the umbilicus, the cone is reversed, and the viscera being no longer supported at their proper levels by the corset-like action of the abdomen, prolapse into the lower belly, and hence there is a reversion to the former hammock-like action of the abdomen.

In other words, the abdominal muscles when properly developed are nature's perfect corset, and perfect support, giving symmetry to the container and satisfactory support to the contents.

The appreciation of this fact is basic in the treatment of the "habitus enteroptoticus," for enteroptotics are born, not made.

Their abdominal viscera revert to the lower type, viscera with loose attachments and long mesenteries—and like contents, like container—the abdominal wall relaxes with the "pot belly"—the hammock-like belly of the quadruped.

Hence the vital need in these cases is to support the relaxed viscera at their proper levels by building up a belly wall of solid muscular support and thus beneficially influence the contents by changing the character of the container.

The full appreciation of this fact will relegate the use of abdominal belts and supports to the subsidiary position to which they belong, and the development by proper gymnastics of the abdominal muscles to perform their corset-like function will loom large in the treatment of enteroptosis.

The prevalent pot-belly which is only a reversion to the lower type, has been cultivated, not cured by abdominal supports.

Note again the position of the pelvis in relation to the abdominal viscera. This bony basin might at first glance be deemed a proper support to the viscera with elongated mesenteries.

As a matter of fact, for this purpose the pelvis was never intended, and in the erect posture the viscera are worn not in the pelvis, but in front of the pelvis. Abdominal viscera permanently in the pelvis seriously interfere with its function.

Note that the function of the pelvis is a storage cavity—storage for the urine—in the bladder, storage for the feces—in the sigmoid, storage for the fetus—in the womb.

How is this storage function of the pelvis preserved from undue pressure of abdominal viscera when the erect posture was assumed?

By the fact that the pelvis is the one visceral cavity that did not change to any extent its axis when the erect posture was finally assumed.

As the biped evoluted from the quadruped the principal change was in the perpendicular position of the spinal column *above* the sacrum, the

* Read before the Medical Society of the State of New York, at Albany, April 19, 1911.

sacrum maintained nearly its original horizontal position.

And so it comes to pass that the pelvis approaches a right angle to the spinal column, and so it happens that the weight of the viscera falls on the muscular walls of the lower abdomen, and when the abdominal walls exercise their corset-like function, they squeeze the abdominal viscera away from the pelvis and in the direction of the diaphragm.

Let me now call your attention to some developmental defects in the abdomen due either to arrest of development or reversion to a lower type.

It will be readily observed that these defects give rise either to intestinal or renal stasis, and that the mild but constant fecalæmia or uræmia produce a chronic toxæmia which constantly depletes the vital income, and is responsible, in a large measure, for the vital insolvency which is expressed by the term neurasthenia.

I present for your consideration the so-called prolapsed transverse colon, familiar to all observers of the abdominal viscera—for a long time thought to be an acquired condition due to a constriction of the waist, and a pressing downward of the abdominal viscera by tight-fitting corsets.

If this theory be true, then children and men should be exempt from this form of transverse colon.

Fig. I.—V-Shaped Transverse Colon.

The modern facts are that it is observed as frequently in children as in adults, alike in males as in females, though not in so great a proportion. Hence the futility of explaining this phenomenon as a sequence of the corset habit.

As a matter of fact this so-called prolapsed transverse colon is really not a true prolapsus at all, it is an elongated transverse colon, and its shape conforms to its length. It is too long to be squeezed into a straight course occupying the

Fig. II.—U-Shaped Transverse Colon.

upper abdomen. Its extra length causes it to assume the form of a festoon, sometimes a V-shape, other times a U-shape. The shape invariably depending upon the length. Figs. I and II.

Two facts we know about this elongated transverse colon: First, this is the type of transverse colon found in the lower primates—the monkeys.

Second, whenever there is an undue development of the length of the large intestine, the "slack" so to speak, is provided for in two places, either there is an extra long transverse colon, or an extra long sigmoid.

This extra long transverse colon is found in 25 per cent. of all women, and about 10 per cent. of men. It is a developmental defect frequently associated with gastroptosis, nephroptosis and allied disorders.

This developmental defect produces not only a longer and less direct route for the fecal current, but the hepatic and splenic flexures are sharply kinked by the weight of the loaded transverse colon, and is thus a cause of chronic intestinal stasis, and the vicious circle of which neurasthenia is the result.

Within very recent times Arbuthnot Lane has called attention to the occasional presence of a distinct ligament which is attached to the ileum opposite its mesenteric border, and to the under surface of its mesentery within a few inches of the ileocecal junction. This ligament contracts

Fig. III.—"Lane Kink."

and deforms the ileum, producing a kink or obstruction of this portion of the intestine. Fig. III.

In surgical lore this condition is now known as "Lane Kink," and it produces definite symptoms of chronic obstruction, causing dilatation of the small intestine sometimes as far as the pylorus.

Now, what is the pathology of "Lane Kink?" It is surely a developmental defect, for it will be recalled that normally there are three peritoneal folds which pass between the terminal ileum and the cecum and appendix. Two of these folds are vascular, pass anteriorly and posteriorly between the ileocecal junction and carry blood vessels to supply the cecum (Huntington.)

A third *non-vascular* peritoneal fold passes from the ileum opposite its attached mesenteric border down to the cecum. In some of the anthropoid apes this fold is carried for a considerable distance along the ileum.

It is this intermediate non-vascular ileocecal fold of peritoneum undergoing abnormal changes and acquiring new attachments that is responsible for the developmental defect now known as "Lane Kink."

This peritoneal fold which represents that portion of the peritoneal covering of the small intestine which is lifted off by the primary cecal pouch protruding from the empryonic intestine is normally a developmental relic, but as "Lane Kink" it assumes a pathological role and becomes a developmental defect.

This defect is evidently acquired in the evolutionary changes of intestinal migration with the evident intent of anchoring the ileum more firmly in position at its ileocecal junction.

We have found in our investigations that "Lane Kink" occurs in 6 per cent. of cases. That it is a factor in chronic intestinal stasis is evident, and therefore must contribute its share toward the toxæmia of neurasthenia.

It frequently simulates chronic appendicitis, and not a few cases operated upon for chronic appendicitis where normal appendices have been removed, are really cases of "Lane Kink," curable only by incising the ligamentous bands which obstruct the intestine at this point.

We have already stated that whenever there is an undue development in the length of the large intestine the "slack" is provided for in two places; either there is an extra long transverse colon, or an extra long sigmoid—in other words, the movable portions of the large intestine are the variable portions.

I call your attention for a moment to the extra long sigmoid or *infantile sigmoid* as a factor in chronic intestinal stasis. The reason for calling it "infantile sigmoid" will be seen later.

It will be recalled that the sigmoid flexure of the colon or sigmoid loop normally forms an omega-shaped loop, about 17 inches long, the extremities of which are fixed and are only three to four inches apart. Owing to the length of its mesocolon, the sigmoid is very mobile, and for the most part occupies the pelvis.

Recall the fact that at birth the sigmoid forms nearly one-half of the large intestine and lies in the abdomen, and that the future growth of the large intestine is at the expense of the sigmoid flexure. When, therefore, owing to defective development, the infantile type of sigmoid persists, we get an enormous sigmoid lying in the abdomen and extending in one of our cases as far as the splenic flexure. Fig. IV.

Fig. IV.—Infantile Sigmoid.

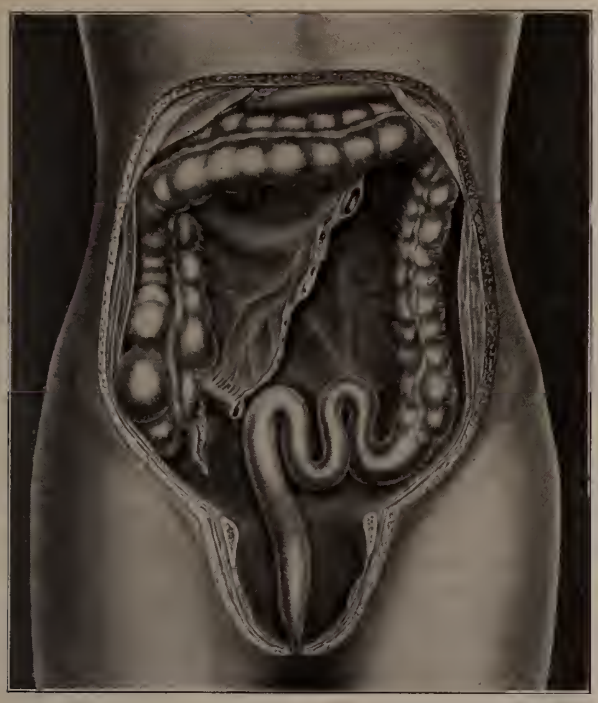

Fig. V.—Double Looped Sigmoid.

Sometimes the sigmoid consists of two successive loops. Fig. V.

These infantile types of sigmoid are by no means rare, and since pursuing our investigations we have found them in 4 per cent. of cases.

It is evident that they contribute a mechanical factor in the production of chronic intestinal stasis, and its consequent toxæmia in the production of neurasthenia.

Movable or prolapsed kidney has been the subject of controversy for many years. It is a curious fact that this controversy centers about the technical methods of treatment which are difficult to clearly define or correlate, and the ideal operation for movable kidney is yet to be made known. Such prolonged differences of opinion always predicate an unsettled etiology and pathology.

Such absurd propositions as that the loss of fat causes the kidney to prolapse, or that fattening the patient will fix the kidney in position again, is evidence that the profession has gone far afield in comprehending the mechanism of movable or displaced kidney.

The oft quoted dictum of Glenard that enteroptosis may exist without nephroptosis, but not nephroptosis without enteroptosis, has been used as law and gospel as if having divine sanction. The only flaw in this time honored statement is the fact that it isn't true. Forty per cent. of our movable kidneys were not accompanied by anything that approached enteroptosis.

Our investigations of movable kidney are by no means complete but sufficient evidence is at hand to warrant an hypothesis.

Let us call your attention to the fact that movable kidney is found not only in women but in men and children as well. The theory of tight corsets does not, therefore, explain all the facts. Not only this, but movable kidney runs in certain families.

Again these movable kidneys all have abnormally long pedicles. We can conceive that such a long pedicle might be acquired after many years of tension caused by the constant drag of a displaced kidney, but this abnormally long pedicle is found in the movable kidney of children. It is therefore, probable that the long pedicle is characteristic of movable kidney.

What is the rational explanation of this long pedicle? It is probably congenital, and we further venture the hypothesis that movable or displaced kidney is a developmental defect. That the majority of movable kidneys have never been anchored in a normal position. They are the result of arrested migration.

We eliminate from this discussion the acquired movable kidney of serious accident or strain, as they form but a minor proportion of these cases. We are discussing the subject in a broad, general way.

Does the developmental history of the kidney harmonize with this hypothesis? It will be recalled that the kidney is one of the viscera that migrates from the pelvis to its permanent position.

Thus, in defective migration it may occupy any position from the pelvis to the renal fossæ.

Why should this defective migration be so frequently evidenced by right-sided movable kidney?

The right side is complicated by an opposing developmental force not present on the left side. For it will be recalled that while the right kidney is migrating upward, the cecum is migrating downward to its permanent position in the right iliac fossa. It is probable that this developmental phenomena may rationally explain the frequency of right movable kidney as a developmental defect.

Given then the fact that many sufferers are anatomically deficient, what can be done to rectify these defects?

It is pretty certain that the frail, thin, weakly girl who remains so during much of her childhood, becomes later the neurasthenic woman. Round shoulders, hollow backs, small chests, lengthened and thin abdominal muscles, protuberant abdomens, these are the factors which increase developmental defects, and bring about mechanical disturbance which in time leads to mechanical and bacterial changes and finally to chronic disease of other organs.

The treatment of these cases should therefore begin in childhood.

First.—The child should be taught proper posture, and this is the first, middle and last requisite in all conditions of abdominal ptosis.

Round shoulders, hollow backs, small chests

and protuberant abdomens are corrected neither by braces or belts, but by proper posture.

The relation of posture to human efficiency is not sufficiently appreciated, as is well illustrated in the faulty posture observed in the majority of men and women.

The relaxed posture with the forward head, round shoulders, hollow chest, protuberant abdomen, the viscera crowded down in front of the pelvis is the popular posture. The chronically bad posture increases enteroptosis and exaggerates developmental defects.

The simple act of contracting the abdominal muscles so that the abdominal viscera are held above, not in front of the pelvis at once illustrates the influence of poise upon the support of the viscera.

Proper posture is therefore the first essential in the treatment of these cases.

Next, development of the relaxed and thin abdominal muscles by proper gymnastic exercises, so that the abdominal wall may perform its corset-like function and maintain the viscera at their proper levels.

Goldthwait shows that the lower border of the stomach can be raised from 4 to 6 cm. when the body is brought from the relaxed to the military position.

During the hours of rest the foot of the bed should be elevated so that the viscera may gravitate toward the diaphragm, and the lengthened and relaxed mesenteries recover from the strain to which they have been exposed by the abnormal intra-abdominal pressure.

Movable kidney needs no operative interference unless there is obstruction of the ureter and overdistension of the pelvis, due either to kinking of the ureter or "bow-stringing" the ureter by an aberrant renal artery.

Gastroptosis is not an indication for operation unless the motility of the stomach is embarrassed.

"Lane Kink" should be relieved by operation, and no operation for chronic appendicitis is complete without examining the last six inches of the ileum and relieving the kink, if present.

Perhaps in time American surgeons may follow the teachings of Lane and remove the defective portions of the colon which cause malnutrition and autointoxication—but the procedure is not yet popular.

THE PRECANCEROUS STAGE.*

By PARKER SYMS, M.D.,
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No more serious problem than the question of cancer presents itself both to the medical man and to the layman. So far it has baffled our investigations as to its actual entity and as to its actual causes. We do not yet know whether it is due to a micro-organism or not. Though it is steadily on the increase, we have not yet been able to determine the reasons for this fact. Of course the more modern methods of recording and studying vital statistics are giving us an ever clearer means of recognizing the importance of this disease as a factor in determining the causes of death in our communities.

In England it is estimated that in individuals over 35 years of age, one woman out of every eight and one man out of every eleven dies of cancer. This is a greater death rate for that period of life than is that of tuberculosis.

Though we have met with many failures in our attempts to elucidate knowledge of cancer, our efforts have been far from futile—we have accomplished much. Improved methods of surgical technique have greatly lessened the mortality of this dread disease. In cancer of the breast, the modern method of operating has brought about a great change. Fifteen years ago permanent cure of cancer of the breast was effected in only a desultory way, in only a few isolated cases, while to-day we are able to cure at least 50 per cent. of breast cancers, and in selected series of cases we may expect to cure as high as 80 per cent. of these cases. This is owing to a better knowledge of this particular form of the disease, to its earlier recognition, and also to the very much improved methods of operation.

But there is one thing that our studies and reflections have taught us, and that is that in a very large proportion of cancers, as we see them, there has been a purely and distinctly precancerous stage. I mean by this that we can recognize certain lesions, certain benign growths, and certain abnormal conditions, as the precursors of cancer. To my mind this is one of the most hopeful phases of our knowledge of cancer. For if we can fully and systematically recognize certain states as being the forerunners or the predisposing causes of cancers, we are in a position to greatly lessen the occurrence of this dread disease. In other words, we are forewarned and forearmed, and if we apply the knowledge at our command we can combat this disease by prevention. In the large proportion of cases we do not have to wait for its actual occurrence, but we have all the advantage of prophylaxis as contrasted with the disadvantages of attempted cure.

A careful analysis of our cases of cancer with a careful retrospection will teach us more and more systematically just what abnormal conditions and lesions are frequently followed by cancer, and in this way we really arrive at the most practical knowledge of the etiology of cancer.

From a knowledge of the cause of a disease, to a knowledge of its proper treatment, is a comparatively easy step. And if we properly apply the lessons we have learned we shall be able to prevent, and that is far better than to cure, a large proportion of cancers.

* Read before the Medical Society of the State of New York, at Albany, April 19, 1911.

In a brief paper of this sort it will not be possible to fully cover this important subject. It must suffice if we can emphasize the fact that we do know something very practical concerning the etiology of cancer, that we do know that certain lesions and conditions are the precursors of cancer; that there is a precancerous stage; that in most cases of cancer we can look back to a time when there was a definite non-cancerous period, and that the early and proper removal of cancer precursors constitutes the prevention of cancer in the precancerous stage.

Prominent among the precursors of cancer are benign tumors, chronic ulceration, chronic inflammation and scars, and prolonged irritation.

It has long been a recognized fact that the majority of benign tumors may sooner or later be invaded by cancer or may undergo cancerous degeneration. This is notably true of most of the various forms of tumors of the breast.

Benign Tumors of Breast.—Nearly every variety of benign tumor may be found in the female breast. The fibro-adenomata are by far the most frequent, and therefore the most important in this connection. These benign tumors may exist as innocent growths for years, and certain of them may continue indefinitely as such, but in the life history of any one of these, carcinomatous infiltration may take place, and then we shall be dealing with a carcinoma pure and simple.

The lesson to be learned from this is, that every benign tumor of the breast should be removed before it has an opportunity to become carcinomatous. In other words, it should be removed as soon as it is recognized. The time has passed when the doctor, in his ignorance, may advise his patient that a tumor of the breast is of no significance unless it shows active signs of malignancy. If we recognize the benign growth as a potential cancer we know at once how to deal with it, and that is, to deal with it at once. In this way we are not only able to insure a patient of definite and permanent cure, but also we may bring this about by means of a small operation involving little shock and the least possible mutilation.

Pigmented Moles.—Keen, Bloodgood, and, of course, many others, have shown how more than prone these growths are to become cancerous. One of the most instructive lessons can be learned by a careful review of Bloodgood's work in this connection. He made an elaborate study of 65 cases of malignant pigmented moles operated upon. In every case the diagnosis was confirmed by microscopic examination. Up to the time of his report there was not a definitely cured case among them. He calls attention to the fact that in every one of his cases the tumor had existed as a benign growth for many years before it became cancerous. Think what this means! It means that 65 cases (the total of a series) became incurable cancers and that each and every one of these sad cases could have been prevented had operation been performed at the ideal time—that is to say, during the precancerous stage. In the same report he cites 76 cases of benign pigmented moles which were removed in the precancerous stage, and he states that there have been no local recurrences and no deaths from internal metastases.

Hugh Young, of Baltimore, has made an extensive study of this subject in connection with hypertrophy of the prostate. Of course senile hypertrophy of the prostate is purely an inflammatory process, or the result of one. Young has demonstrated an immense proportion of carcinoma among his cases of enlarged prostate. And this fact shows how this chronic inflammatory condition may be the precursor or precancerous stage of the cancer. In his address before the Section on Surgery of the American Medical Association last year, Charles Mayo called attention to this fact and cited it as one of the reasons for removing an abnormally enlarged prostate gland.

To-day we have very accurate knowledge of the lesions of the stomach as compared with what we knew a few years ago. We have the records of vast numbers of cases where the disease has been actually seen and demonstrated by skilled and able pathologists. A few years ago we had to depend on theories and surmises, based on imagination, unaided by sight and demonstration.

While it would be impossible to estimate what proportion of cases of ulcer of the stomach results in cancer, it has been possible to estimate what proportion of cases of cancer of the stomach were preceded by gastric ulcers, either healed or unhealed. In the immense clinic of the Mayos it has been shown that between 60 and 70 per cent. of cancers of the stomach have developed in the site of a pre-existing gastric ulcer, or in the cicatrix of an ulcer which has been healed. In other words, it is evident that we must consider gastric ulcer is a precancerous stage of more than two-thirds of the gastric cancers.

The lesson that we must learn from this is twofold—first, that gastric ulcer must be cured; second, that when we operate for gastric ulcer we must remove the ulcer-bearing area. If these statistics and these statements taken from the Mayo records are accepted, certainly gastro enterostomy is not the logical and rational procedure. It may cure the ulcer but it does not remove the cicatrix of the healed ulceration; in other words, it does not remove what has been pointed out as a conspicuous forerunner of cancer. Now a word as to the necessity of curing gastric ulcers. I feel that the day has come when we should insist on cure of all curable gastric ulcers and allied diseases. The day has passed when we should consider chronic indiges-

tion as a man's normal estate. And when we consider the fact that chronic gastric ulcer has been the predecessor of two-thirds of the stomach cancers, we undertake a fearful responsibility in these cases unless we insist upon doing the best that can be done.

Gall-Stones.—A few weeks ago a patient was referred to me for operation on account of an obstructive jaundice. It was evident to me that the patient probably had a carcinoma and it was with that understanding that I did an exploratory laparotomy.

My reasons for this diagnosis were continuous jaundice, progressive emaciation, absence of febrile disturbance, absence of signs of inflammation; the patient also had vomiting and gastric disturbances, indicating obstruction to the pyloric outlet.

On opening the abdomen, it was found that she had a carcinoma, involving the greater omentum, the transverse colon, the lower end of the stomach, and, in fact, all the organs of the right upper quadrant.

This patient gave a clear, distinct and classic history of gall-stone disease, lasting over a period of eight years, and from her history it was evident that the carcinoma was of comparatively recent origin.

The above case is only one of innumerable instances which can be cited. It clearly depicts a case of cancer which had a very distinct precancerous stage, and I have no doubt that an operation curing her of gall-stones and cholecystitis years ago, would have prevented the development of cancer in her case.

Cancer originating in the bile ducts is doubtless an instance of cancer caused by chronic irritation. In the vast majority of cases of cancer of the gall-bladder, of the biliary ducts, and of the liver, there can be found a history of many years of typical symptoms of cholilithiasis.

It may be assumed that no case of gall-stone disease recovers spontaneously. Of course, a large proportion of gall-stones may exist for years without producing violent or active symptoms. The fact, however, that cancer results from long irritation of gall-stones should demand an operation in every case, unless the patient's condition is such as to outweigh the reasons for operating.

Of course there are many other reasons why gall-stones should not be left unoperated. Gall-stones are never a source of benefit to the patient; they are always a source of harm. It is not necessary to discuss this point more fully; the one fact for our present purpose is sufficient;—gall-stones are frequently precursors or forerunners of biliary cancer, and that one reason alone should suffice to prompt us to operate and cure all cases of gall-stones.

Of course, such arguments as have been set forth above might be extended without limitation. I have not even touched upon the causes which lead up to uterine cancers, where we have conspicuously chronic ulceration, chronic inflammation and tumors as instances of the precancerous stage. I have not touched upon the various examples of cancer produced by irritants and chronic irritation. We are all familiar with the chimney sweep cancer, clay pipe cancer, Kangri cancer of Thibet, cancer produced by too frequent exposure to the X-ray, cancers of the skin produced by undue exposure to the sun's rays, epitheliomata, developing on the site of such harmless swelling as sebaceous cysts because they are subject to trauma and irritation.

If what I have written may help to impress this important fact on the minds of the profession, and if it may be the means of enlightening laymen, this paper will have served a good purpose. It is certainly our duty to fortify ourselves with all the knowledge we can obtain of this matter, and more than that, we must do what we can to enlighten the public. The war on tuberculosis has but recently begun, and yet we have made wonderful progress in checking that dread disease. This has been largely due to the fact that we have taken the public into our confidence and have started a campaign of education and co-operative work. We must do the same thing in regard to cancer, which is as dread a foe to the human race, as is tuberculosis. It is necessary that we use our best efforts in combating this great enemy, and it is our duty to teach the public all the practical lessons we can impart.

If we can impress upon ourselves, and upon our patients the fact that there are many conditions which predispose to cancer, and if we can clearly recognize these conditions, and if we can systematically cure or remove them, we can go a long way in the march to victory, for we will be able to remove the cause; in other words, we shall be able to apply preventive measures, and if we can prevent half the cancers which would otherwise occur, we cannot only blot out untold suffering, but we can prevent over 20,000 deaths a year in our own country alone.

Discussion.

Dr. James P. Tuttle, New York City: The paper that has been read is one of the most important that has been presented for some time. The fact is, that while we have all known for many years certain benign tumors were prone to malignant transformation, there are other precursors of cancerous growths that we have not been so familiar with, and to which we have not paid enough attention. In fact, I am rather sorry Dr. Syms did not add more emphasis to the question of cicatrical tissue as a precursor of carcinoma. If any of us have done many cancerous operations and have had recurrences in the breast or bowel, in which I am more particularly interested, will go back and look over the subject more, we will find that over 90 per cent. of

the recurrences begin in the scar. You find it always beginning along the margin of the scar. This is true of every case of recurrence of carcinoma in the rectum; I do not mean metastatic recurrences in the liver. In some cases in which we have taken out carcinoma there have been long histories of intense constipation before the cancer symptoms, bloody mucus, etc., have appeared. These symptoms have followed conditions of dysentery and ulceration. When the tumor has been taken out, there has been a carcinomatous surface on the inside of the tumor, with a broad deposit of cicatricial tissue around the carcinoma, and I have in two cases recently had this broad cicatricial tissue examined and found it has no carcinomatous characteristics at all, but is purely cicatrical tissue, whereas the inner surface has degenerated into carcinoma or has undergone carcinomatous change. These cases start in the internal structure of the bowel and malignant transformation takes place secondarily. In other words, a patient does not suffer from carcinoma of the rectum or bowel for three or four years and remain comparatively healthy without cachexia at the end of that time. It comes from cicatricial tissue and then you get malignant degeneration.

Wallace, of London, has recently published a paper upon extensive operations for fistula in which there are immense fibrous or cicatrical deposits, and gives a record of twenty-five cases in which carcinoma has developed in these deposits. What is the lesson? Where there is without doubt a cicatricial deposit following operation for carcinoma in the breast, in the rectum, or fistula, or any condition of that kind, it is our duty to remove these big cicatrices, get them out of the way, and bring healthy tissues together, and I believe by so doing many of our carcinomatous cases will be obviated.

Dr. Syms (closing): I have really nothing to add. I simply meant this paper to be suggestive, and I think I may say that if it is suggestive at all, it is suggestive of one of the most important questions which presents itself to us. What Dr. Tuttle has said is certainly true, and it only carried out the point I wish to make, and that is we should, as far as possible, remove from the patient every known precursor of cancer.

THE ROLE OF PHYSICIANS IN THE PREVENTION OF INSANITY.*

By ALBERT WARREN FERRIS, A.M., M.D.,
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It has become a trite saying that physicians are more concerned with the prevention of disease at the present time than they are with its cure. To make an accurate diagnosis and to avail one's self of all the methods of combating morbidity, while frequently of extreme difficulty, is, nevertheless, in one sense not as great a work as to ascertain accurately the agencies that produce disease and to take such measures as will terminate or at least limit their activity.

Above the entrance to the surgical amphitheater of St. Come, Paris, is the following inscription: *"Ad caedes hominum prisca amphitheatra patebant, ut discant longum vivere nostra patent."* That is, "The amphitheaters of old were open for the slaughter of men, ours that they may learn to prolong life." Not only to prolong life does the physician of to-day enter the arena, not only to give successful battle to disease, but to indicate undermining agencies, to teach the avoidance or removal of the causes of disease, and even to suggest measures that may baffle heredity. Prophylaxis is the motto of the day.

As a result of study of the causes of typhoid fever and applying preventive measures, the mortality of that dread disease has been reduced to 15 per 100,000 of population, the lowest yet recorded in this state. The death rate of diphtheria has been decreased through the use of preventive measures to 21.2 per 100,000 population. Antitoxins of several varieties have been developed which are used as prophylactics in staying the advance of many diseases. The development of anti-bodies and the increase of opsonins form our chief reliance in combating the results of infection in the case of many germ diseases. But it is needless to suggest to physicians an extended consideration of the topic that is constantly uppermost in their minds.

In the campaign that has begun against the spread of insanity the same principle of prophylaxis is to be applied.

It was Daniel Webster who said: "We have no means of judging of the future but by the past." What is our past record? What is our present need? What do we reasonably expect that the future has in store for us?

Our statistics teach us that in 1890 the population of this state was 6,171,586, while the number of the known insane reached 16,006. In 1910 the Census Bureau reported that the population of this state had reached 9,113,279 persons, while the number of the known insane had increased to 32,685. That is, while the population of the state increased 47.6 per cent., the number of the known insane increased 103.9 per cent. These figures do not indicate, in all probability, as large an increase in the production of insanity as appears probable upon first examination. We have reason to believe that the increase in insanity is but slight, although the increased burden that the state has to bear is enormous, for one in every 279 persons in the state is insane.

Last year the state received 7,160 new cases of insanity, and the total net increase reached 1,119. During the six months that have elapsed

* Read before the Medical Society of the State of New York, at Albany, April 19, 1911.

since the present fiscal year began the increment has been greater than during the same period last year, and our net total will reach above 1,200 additions. In the case of insanity as in the case of typhoid fever, diphtheria, tuberculosis or other diseases the logical and economical agency to employ is prevention, though in the case of insanity it is much more difficult of application than in the case of the diseases named. There are, however, many ways in which the legions of organized physicians throughout the state, forming a noble body of devoted and self-sacrificing men and women, can be marshalled to give battle to the agencies that determine the incidence of mental disorder. The close familiarity with many individuals, the possession of the confidence of parents and teachers, the opportunities for the sowing of good seed here and there in families and in communities, combine to equip the physician for the most effective activity in this movement.

In the beginning we must inquire what are the avoidable causes of insanity. The answer is, *First,* next to heredity the principal cause of insanity is the use of alcohol, not necessarily in excess, but most frequently in so-called "moderation." There are many susceptible individuals with inherited nervous tendencies or acquired nervous conditions who are easily undermined by a small amount of alcohol and in whose cases, while not the only operative cause, alcohol forms the determining cause that results in insanity. It is claimed by many dieticians that alcohol has a food value. Possibly it has in a few cases, but in all cases it has a distinctly toxic effect. A large amount of alcohol causes grave toxicity; a small amount of alcohol causes a smaller amount of toxicity. Of the 32,000 people in the state hospitals for the insane, 26.8 per cent. owe their insanity to alcohol. That is, in all the cases forming this percentage, alcohol has been the determining factor, although not necessarily the only factor in the causation. In a series of 961 cases of insanity occurring in the Manhattan State Hospital, of which the entire causation was known, 55 per cent. of the men and 22 per cent. of the women owed their insanity to the use of alcohol. This is probably a fair type of conditions found in metropolitan districts.

Demme, of Switzerland, reports the following results after an exhaustive study of two groups of families, one alcoholic and the other non-alcoholic. In the ten alcoholic families there were 57 children born, of whom 25 died early, many suffering from nervous diseases and only 17.5 per cent. were normal. In the ten non-alcoholic families, there were 61 children, of whom four suffered from nervous diseases and 81.9 per cent. were normal.

It was recently reported that Prof. Karl Pearson has stated that upon examining the children in the homes of alcoholic parents very few mental defectives were found, and that their condition compared very favorably with that of the children found in the homes of non-alcoholic parents. If this statement has been correctly reported, the solution is easy. The mentally defective children of alcoholic parents are not to be found in their homes, but are in the institutions provided for idiots, imbeciles, epileptics and insane. One might as well say that there is comparatively no insanity in this state because, in the examination of the homes of the American people, few or no cases of insanity are found. Obviously, the place in which to seek the insane progeny in any family is not in the home but in the state hospitals and licensed houses for the insane.

The *second* avoidable cause of insanity is syphilis. This cause operates to produce insanity in from 10 per cent. to 20 per cent. of our cases, including, of course, almost every one of the numerous cases of general paresis, 85 per cent. of which are known to have been occasioned by syphilis. Bulkley, of New York, in 20,000 dermatological cases, found syphilis in over 12 per cent. In a series of 300,000 cases compiled by members of the American Dermatological Association syphilis was found as a causative factor in about 11.5 per cent. of the cases. Physicians alone can teach the laity of the prevalence and danger of this dread disease, with its protean manifestations and dire results.

Third.—The use of such drugs as chloral, morphine and other derivatives of opium, cocaine, and possibly headache-nostrums is another cause of insanity.

Fourth.—Excessive fatigue, stress and strain, combine to form another cause, especially in the deviates and the generally unfit. This cause operates principally among the illy housed, badly fed, improperly educated and unfortunately placed people whose general environment has proved to be destructive of what little resistive power they may have had when starting upon the battle of life.

We have been regaled recently by a newspaper account of certain statements said to have been made by an English physician of prominence, to the effect that prophylaxis is valueless. He is quoted as having spoken as follows in a recent lecture: "I have noticed from the circulars of the Health Society the phrase 'Prevention is better than cure.' I would like to stamp that out. We should wait until we are infected and then take steps to kill the microbes." This is equivalent to saying we should not attempt to kill the typhoid fly, but wait until he has infected our food and drink and we have fallen victims to typhoid fever, and then we should take steps to kill the microbes within us. It is equivalent to saying, Let us not prevent the spread of contagion from adjacent cases of smallpox, but wait until we show symptoms of the disease and then treat it in our own persons. In fact, whoever he may be who considers prophylaxis as valueless, he is like our old friend, the ostrich, with his

head in the sand, seeing no evil, hearing the approach of no adversary, taking no precautions, but waiting until he is attacked and then proceeding to fly from the zone of danger. Such an attitude of mind can scarcely be called philosophical and would be only amusing if it were not dangerous.

To return once more to the consideration of alcohol, alcoholic habits were recorded in 45.7 per cent. of the male and 15.7 per cent. of the female first admissions into our state hospitals, or in 32 per cent. of the total first admissions last year. Aside from the alcoholic psychoses alcohol was especially prominent as an etiological factor or as a habit among cases of drug psychoses, traumatic psychoses, unclassified psychoses, psychoses with brain tumor, general paresis, and psychoses existing contemporaneously with other brain or nerve disorders. This would suggest that the influence of alcohol as a cause of insanity is increasing rapidly. It is well known that the children of alcoholic parents are found to possess every degree of mental deficiency varying from a moderate amount of mental instability up to complete idiocy. It is stated that alcohol exists as a cause in from 30 to 40 per cent. of epileptic cases. So that any successful attempt to limit the use of alcohol will result in benefit to the race that cannot well be computed.

The question naturally arises, what are exactly the practical suggestions for the activity of physicians in making use of their opportunity to assist in the campaign for the prevention of insanity? Most of the physicians present have been keenly interested in cases of mental disorder, as a large number have acted as examiners in lunacy to arrange for the commitment of patients to state hospitals for the insane. It is unfortunately not an uncommon occurrence for physicians to consider that a patient who has once been committed to a state hospital is thereby consigned to oblivion, and to abandon all thought of and interest in his case. It is emphatically desired by the state hospital physicians that every family physician and every examiner in lunacy shall maintain the liveliest interest in the cases referred to. Family physicians and the examiners are urged to attend the staff meetings at which their patients are presented for the discussion of a summary of their history and present condition and a re-examination to elicit further facts, in the presence of the entire hospital staff in consultation. Staff meetings are held from two to four times a week and each new patient is presented at such a meeting at least twice during the early part of his sojourn in the hospital, and again before being discharged with or without parole. It is urged that every physician who has referred or committed an insane patient shall send his name and address together with the name of the patient to the state hospital wherein the patient is living, in order that he may be notified of the time of the occurrence of the staff meetings. At the staff meetings special attention is given to the early development of mental disorder and to the practicability of early management, showing how possible it is to prevent unnecessary complications and save the patient from drifting, in many instances, into a deeper psychosis.

On certain occasions attempts have been made to secure the presence at a meeting at a state hospital of a considerable number of physicians from the district immediately surrounding the hospital, in order that a report of the cases from that district might be made, with a fairly full account of some of the more instructive cases and a discussion of the local undermining conditions which invite insanity, as well as the methods of care pending commitment and the matter of after-care of the discharged patient. I think I hear some one say that the busy practitioner has little time to attend staff meetings or such conferences as have been suggested. The response can only be affirmative, but the hospital is eager to insist upon the advantage to the family for keeping the family physician in close touch with the insane patient, and for such service the family should pay a moderate fee, covering, at least, the expense of the trip necessary to attend the staff conferences. Physicians are urged to send patients to the hospital as voluntary patients before they have progressed so far as to admit of their being committed.

At two of our hospitals an out-patient department has been organized where family physicians can receive advice and suggestion from the staff physicians without fee, retaining the care of their own patients, and a large number of patients who have sought no other medical advice can be helped and in many cases urged to enter the hospital as voluntary admissions. If physicians desire and value such out-patient departments they will be organized in connection with almost every one of our state hospitals for the insane.

The co-operation of physicians is especially desired in our efforts to inaugurate psychopathic wards or pavilions, maintained as a part of general medical hospitals, where borderland cases are received for care pending commitment or other disposition, where initial temporary treatment may be given, and where decent hospital accommodation will be substituted for the jail and the lock-up. It is a matter of common notoriety that many insane persons are put under arrest, are treated as criminals and thrown into jail along with criminals simply because no adequate provision has been made, by either city or county authorities, for their care pending commitment. The damage done to early insane cases by such treatment is evident and the fact that many initiate delusions of conspiracy and persecution is not surprising. If physicians acted earnestly upon this matter they could compel the immediate adoption of proper measures and humane and decent treatment of all alleged insane persons previously to their commitment.

If physicians of this state acted in harmony they could present the absolute facts regarding the dangers of alcoholic indulgence so vividly and emphatically as to cause an immediate reduction in the amount of alcoholic beverages used and an early decrease in the number of dependents in the care of the state.

If physicians in the state would speak plainly they could save thousands of men and women from being wrecked by syphilis, they could instruct parents and teachers in the matter of the necessary sex education of all children, and they could thereby prevent the occurrence of insanity in thousands of families throughout the state.

Here lies the physicians' opportunity and herein is found the physicians' duty. Lives are in jeopardy, the happiness of thousands of your families is at stake. Prophylaxis through a concerted effort is the only true economy and the only logical agency at this critical epoch in the history of our commonwealth.

Discussion.

Dr. W. H. Kidder, Oswego: The paper of Dr. Ferris calls attention to the efforts that are being made by our state departments to make themselves useful to the people of the state. The President of the Commission in Lunacy is using the knowledge and opportunities of his position to bring to the people a knowledge of preventive medicine, an effort which in the past has not been exercised.

There are some points in reference to the cause and prevention of insanity which I wish to mention simply as seeds for thought. We hear the use of alcohol referred to as the most prolific cause of insanity. The prevalence of syphilis is the next most prolific cause. It was my privilege some years ago to make a careful study of the insane in a foreign country where syphilis is very much more prevalent than it is in this country, and I am quite safe in saying that the percentage of insane as compared with the population is smaller in that country than in this country. On the other hand, I must admit the use of alcohol in that country was much lower in proportion to the population than in this country, so that we have on one side one cause less prevalent, and another cause more prevalent. But the people of that country have an ability which our people do not have. They have the ability to enjoy life. Our people have the ability to work. Our people live to work. Those people work to live, and it seems to me that if we are to prevent insanity, we must educate the people in the art of enjoying life, not taking life too seriously, but getting out of it something besides the mere privilege of doing routine work. That, I believe, lies at the bottom of a great deal of the nervousness for which Americans are so famous and of a great deal of the mental breakdown which comes to America. In our institution we find a confirmation of my statement in the fact that a great percentage of the admissions are from the lower classes, and especially from people either of foreign birth or of foreign parentage. But there we have people accustomed to different forms of life transplanted to an entirely new environment, and they have been unable to adjust themselves, so that we have the things to undermine their mental stability which does not apply to our American people. I simply wish to emphasize this matter of the inability of the average American as compared to the more particularly Latin races of the world to get the proper idea of enjoying life. Their tendency is to take life too seriously.

ARTERIOSCLEROSIS; OR, "THE CARDIOVASCULAR DISEASE."*

By LOUIS FAUGERES BISHOP, A.M., M.D.,
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EVERY worker in the field of general medicine and of circulatory disease in particular must have felt the need of a name to convey the idea of disease of the heart, disease of the blood vessels, arteriosclerosis, and the correlated conditions of auto-intoxication, neurasthenia, kidney degeneration, and so on. Sometimes I have tried to correlate the symptoms under the early and late stages of Bright's disease.

I now propose to describe this clinical syndrome as "The Cardiovascular Disease," just as fibrillation of the auricle has been described recently as "the irregular heart," and just as Dr. Brill lately has described certain indefinite febrile cases as "Brill's Disease."

"The Cardiovascular Disease" offers a name that can readily be understood by all physicians, and yet does not imply anything more than that it is the commonest form of disease of the heart and blood vessels. Arteriosclerosis is a bad term because it has become associated with a particular pathology of the blood vessels and has drawn the attention away from the general distribution of the disease.

I have seen within the last six months over twenty physicians suffering from "The Cardiovascular Disease," and not a little of the clarification of my own ideas has come recently from treating and conferring with these particular patients.

"The Cardiovascular Disease" is a toxic degeneration of the circulatory organs of gradual onset and slow development, often leading in the first instance to neurasthenic symptoms and diminished blood pressure, this being accompanied by indicanuria, and later developing albuminuria, and variable blood pressure; a soft, systolic murmur heard to the left of the sternum and lower down than the hæmic murmur; after this follows protein intolerance; high blood

* Read before the Medical Society of the State of New York, at Albany, April 19, 1911.

pressure; definite changes in the arteries of a structural nature. The disease terminates in the typical picture of Bright's disease with contracted kidney, dilatation of the heart, anasarca, and almost complete protein intolerance.

"The Cardiovascular Disease" occurs in all classes of society, but is found most frequently among the comfortable classes. It is not to be confounded with the arteriosclerosis of lead poisoning, infectious diseases, or muscular strain of hospital patients, nor with the cardiovascular disease that results secondarily to nephritis, and rheumatic heart damage.

The cause of "The Cardiovascular Disease" is, I believe, intestinal putrefaction. At least in my experience, covering the observation of more than 40,000 specimens of urine, intense indicanuria has always been present, except in some advanced cases in which the original cause was not active and in which the suffering was due to structural changes.

The exact relation between the naturally present bacterial activity of the intestine, the absorption of indol, phenol, skatol, and so forth, and disorder of the digestive organs may be left for more elaborate consideration, and we may use indicanuria as an index of the condition.

It must always be remembered that autointoxication often persists for a long time without producing any local symptoms. This explains why in many instances the origin of "The Cardiovascular Disease," when it becomes manifest, is a mystery to the patient and the physician. Fermentation in the stomach is accompanied by well-marked symptoms; putrefaction in the intestines may be entirely without symptoms.

So much for the outline of my subject. The elaboration of it brings forth an infinite number of details and is co-extensive with a large part of my own practice and personal experience.

It occurs, as already stated, among the well-cared-for classes, in its purest form. Some typical cases are:

Case I.—B. D. W., 56 years of age, who came to me March 24, 1910, complaining that three years before he had had a severe hemorrhage of the nose, and six months later developed shortness of breath; and for the last six months had had much shortness of breath, and severe attacks of dyspnœa, amounting, at times, to edema of the lungs.

His father died at the age of 77, with chronic tuberculosis of the bladder; his mother, at 51, from some unknown cause; one brother was well at 55. The patient had two healthy children.

He had never had any severe illness, except that he once had pneumonia. He had always lived an industrious life and had prided himself on his good health, and always enjoyed an enormous appetite. The patient was a physician, and considered it a mystery why he should have developed what he himself recognized to be severe cardiac disease.

The physical examination showed the usual signs of "The Cardiovascular Disease" in its severest form—the very high blood pressure, indefinite cardiac murmurs, and most significant of all, the urine loaded with indican.

The patient acknowledged his voracious appetite which was pandered to by his wife, who was unusually fond of good cooking. He also acknowledged lack of exercise.

The paroxysms of suffocation from angina became more and more severe, but by treatment directed vigorously to the intestinal putrefaction, these symptoms were greatly relieved.

Case II.—K. F. O., another patient of the same age, gave the same history of an enormous appetite, without alcoholic indulgence. He presented the same physical signs of the high blood pressure and murmurs, but in addition to the enormous quantities of indican, he had albumen and casts in the urine, and was more distinctly a nephritic case. This patient has been under observation for several months, and has done very well on a regimen directed against his intestinal putrefaction.

Case III.—N. X. I., same age, had been seen by many physicians. He had attacks of precordial pain, and suffered a good deal of the time with fullness and distress in the precordium. His cardiac symptoms dated back seven years. He was extremely neurasthenic, and was about to give up his work, completely discouraged. He had been treated by nitroglycerine and iodine.

This patient, however, had a low blood pressure and fairly healthy heart sounds, there being a very soft, systolic murmur.

On a regimen directed against his intestinal putrefaction, which was revealed by a very intense indican reaction, he improved so much that he was able to do his work in comfort, and was entirely relieved of precordial pain over long periods of time. This was an earlier case than the other two cases, and gave correspondingly better results.

Case IV.—I. X. S., 60 years of age, for nearly a year had suffered from depression, had been easily tired, sleeping poorly, and had suffered from pain in the precordium and both arms.

His condition when first seen suggested uremia. He was extremely dull and could not remember much. His blood pressure was 220, and perhaps more for some of the beats. His heart showed the signs of an atheromatous endocarditis, involving both the aortic and mitral orifices, giving loud murmurs, both direct and regurgitant.

The patient was much discouraged, and his friends were in despair, as his condition had been regarded as very critical.

The urine was loaded with indican, which gave the key to treatment, and by careful supervision this patient has remained well during the past year.

CASE V.—N. V. C., 55 years old, gave a history of being much depressed lately and of having had a breakdown about a year before. He was sent to Carlsbad where the course of treatment was followed by a serious collapse. He had been a heavy drinker and eater all his life. He suffered from the same symptoms as the other patients—precordial pain, systolic murmur, high blood pressure, but, in addition, had chronic gastritis and was not willing to follow a strict regimen. The urine was loaded with indican and treatment directed against this was at once instituted, and in spite of the lack of a strict regimen he has done fairly well.

There were several other cases but their histories were so alike that it is not worth while to duplicate them.

The existence of precordial oppression is a very striking symptom of "The Cardiovascular Disease," when it has led to commencing structural damage.

Earlier cases were:

CASE I.—K. Q. X., 42 years of age, who complained of precordial distress coming on in attacks. The urine showed large quantities of indican, but on treatment directed to the marked intestinal putrefaction, he made a great deal of improvement which has continued for the past three years. This patient's blood pressure was very low, representing the earlier stage of "The Cardiovascular Disease."

CASE II.—Ordinarily the disease begins insidiously and gradually. However, a few instances have come under observation, where there has been a sudden and intense intestinal putrefaction, leading to immediate damage. Such a patient was

H. Q. I., age 27. His father and mother were living, and he had never had any severe illness. However, for a long time he had had an enormous appetite, especially for meat, and drank freely. Lately he had become much depressed. He had a feeling of fainting, was short of breath, and was immensely annoyed by gas on the stomach and by dizziness. He was referred to me on account of the cardiac condition.

His pulse was very slow, reaching at times as low as 40, and it was irregular in force and rhythm. There was a rough, systolic murmur; the blood pressure was 100; the urine contained immense quantities of indican, albumen and casts. The patient was profoundly neurasthenic, and suffered a great deal from precordial distress.

This proved to be a very intractable case, after the first improvement, which was rapid. The condition had been a profound mystery to the patient and his friends, but the auto-intoxication was so intense, that the indican reaction was noted as unusual, even in my laboratory where such specimens are of frequent occurrence.

The patient was treated by repeated doses of castor oil, intestinal irrigation, and the use of the less fermentable carbohydrates. His blood pressure rose to 115, his pulse became regular in force and rhythm and got up to 70. His neurasthenic symptoms, however, at the present time are still active.

The pathology of "The Cardiovascular Disease" is the pathology of arteriosclerosis. The chemical effect upon the structures of the circulatory organs causes a condition which for want of a better name we call, a low grade of inflammation. This leads first to relaxation of the tonicity of the muscular elements, and finally to increase in connective tissue. In the kidneys there is set up a true nephritis, and the most dire results come from the inability of the kidneys to take care of protein substances. The blood pressure rises as a compensatory process to rid the system of the retained protein products, but blood pressure does not rise, as a rule, until kidney damage has been done. So long as the kidneys perform their functions properly, a case of "The Cardiovascular Disease" may have a distinctly low blood pressure.

When the blood pressure does rise, the element of heart strain is added, and as the heart is already damaged, the progress toward the severer type, such as the first few cases I described, is very rapid.

There is this to be said, that however severe a case may appear at first, it is not possible to tell its actual condition until the intestinal putrefactive element has been controlled.

Old cases have established a chemical habit, that makes it extremely difficult to eliminate indican from the urine. I am accustomed to tell such patients that they must be satisfied with a clinical cure, and that so long as the putrefaction is being fought, it may not be doing any particular harm. The course of the disease is from five to twenty-five years.

In the treatment of "The Cardiovascular Disease" the Nauheim methods are of much value, though it is not easy to define the route by which improvement is brought about. By Nauheim methods, I mean change of mode of life and environment, change of diet, removal from work and worry, carbonated baths and resistance exercises. This, in England, is called the "Spa Treatment" in general, and the "Schott Treatment," when referring to the particular hydrotherapeutic and gymnastic procedures used in Germany. It has seemed to me lately that, possibly, the carbonated baths in some way promote the elimination of indol and its allied products through the skin. This might be an interesting subject for investigation.

The most important treatment, however, of a case depending upon intestinal putrefaction is the

regulation of food, the use of suitable cathartics, and the encouragement of the germs of lactic acid fermentation by the use of the less fermentable carbohydrates. Recently, I have been using milk sugar. Abdominal conditions, such as enteroptosis and gastroptosis must be attended to. Alkaline mineral waters by counteracting the natural acidity of the intestinal tract often do great harm which appears as a most intense auto-intoxication, after a course of such treatment. I saw a case this winter in which, following a severe alkaline reduction cure, there was such an intense poisoning of the heart muscle from auto-intoxication, that chronic fibrillation of the auricle resulted.

The question of alcohol and tobacco must be decided according to the individual case.

To summarize, I would say that this paper is merely suggestive, and of necessity does not cover the subject, which might fill the whole session of the society. What I propose as a subject for discussion is:

I. Whether "The Cardiovascular Disease" is a proper name for the condition described, in which the circulatory organs primarily and the nervous system secondarily are gradually damaged by errors of living that have set up an intestinal putrefaction, this disease extending over a period of many years, though, on the average, apparently beginning in the later forties and terminating in the earlier sixties.

I would also like to have discussed:

II. Whether my belief that certain cases of low blood pressure represent the early stages of this condition.

III. Whether my objection to alkaline mineral waters is well founded.

IV. Whether other observers have traced cases of fibrillation of the auricle directly to auto-intoxication, which has seemed to me to have happened in two other cases besides the one mentioned above.

Discussion.

Dr. Edward B. Angell, Rochester: I have been very much interested in this paper because it is confirmatory of what I have found out with reference to nervous people. I am not yet ready to say whether it is intestinal putrefaction, or whether it is inefficient elimination of the nitrogen material through the kidney that is the cause of most of the symptoms in these cases. However, there is no doubt but what the overingestion of meat has more to do with cardiovascular troubles, or the ingestion of nitrogenous food has more to do with it than any other one thing. We must bear in mind that meat tends to putrefactive conditions in the intestinal tract. So far as the use of alkaline waters is concerned, I am rather inclined to believe the explanation I can give Dr. Bishop will help him out. I find that uniformly when I begin to alkalinize the intestinal tract with soda, and I give large doses of it, a teaspoonful three or four times a day to hospital cases, that in the course of two weeks treatment of that sort the urine takes on an alkaline reaction, and these patients often complain of being worse immediately the nitrogenous material is eliminated, when all but 20 per cent. goes through the kidneys. Eighty per cent. of the nitrogenous material passes out through the kidney rather than through the bowel. We must watch that rather than indulge in the free use of purgatives.

I have enjoyed the paper and think it is along the right line of getting at some of these arterial changes. Personally, I quite agree with Cabot, of Boston, that alcohol is not such a curse as we have supposed it to be, so far as its effect upon the arteries is concerned, and there are other conditions which play an important role, and one of the most important of these is meat eating. Excessive meat eating and alcohol are deadly when combined.

Dr. J. M. Swan, Watkins: The first question Dr. Bishop has discussed in his paper is whether the term cardiovascular disease is a proper name for the condition described. Personally, I am opposed to any increase in the complication of our nomenclature. It seems to me, that arteriosclerosis amply covers the case the doctor has described in his paper. Arteriosclerosis is, I believe, not an inflammation, but a degenerative change depending upon a great many varying causes, the intemperate use of alcohol and tobacco being among them, but I think in a great many people, who have never used alcohol and tobacco, that the acute infectious diseases and the overeating of proteid foods, as well as carbohydrate food, and the improper elimination of the end products of these substances, on account of insufficient exercise, and so forth, are largely responsible for the condition. The disease is a general one, but its symptoms may be manifested in one of three main places—the kidneys, producing nephritis; in the heart muscle, producing fibro-myocarditis, and in the brain, producing the various brain symptoms of this condition.

In regard to the question of whether these cases of low blood pressure represent the early stages of this condition, I should agree with Dr. Bishop; that very frequently in cases of this kind the blood pressure in the palpable arteries is low.

As to the other two questions propounded in the paper, I am unable to give any opinion regarding them from personal observation.

In regard to reporting the amount of indican in the urine, papers on this subject say that indican is present in large quantities, in moderate quantities, and so forth. It seems to me, it would be a valuable thing if we could conclude on some method by which, at least, an approximation of the amount of indican could be determined. The quantitative determination of indi-

can in the urine is rather complex for the physician in the ordinary clinical laboratory, and he cannot do this work satisfactorily.

Dr. H. Schoonmaker, Clifton Springs, N. Y.: In regard to naming this condition, the Cardio-Vascular Disease, it strikes me that the term does not mean enough, and also that it is just as well not to multiply terms. I like the term which Mackenzie uses, "cardiosclerosis." Arteriosclerosis does not mean quite enough. It does not imply that the heart is involved. Cardiosclerosis means all of this, and it seems to me that we would do well to adopt this term.

The burden of Dr. Bishop's paper brings to mind the treatment of these cases, much made use of in general hospitals—the so-called starvation treatment. Put the patient to bed, and keep him on a milk diet for several days; clean out the bowels and induce relaxation of mind and muscles, and the results are often surprising.

The effect of the Nauheim bath in cases of cardiosclerosis depends much on the capillary resistance; upon the degree of sclerosis of the cutaneous vessels. If this is at all advanced, Incandescent sweat baths, given either alone or on alternate days with a modified Nauheim, give better results than the regular Nauheim schedule.

A word about the blood pressure of these cases. Cardiosclerosis necessitates increased blood pressure, and it has occurred to me that the essential, in the individual case is to determine what the relative normal pressure is—that is, after eliminating all exciting factors—to determine as near as may be what the relative normal pressure is and not to try to reduce it below that point. A great deal of damage may be done by trying to reduce the blood pressure too low. Increased blood pressure is essential to the well-being of the patient.

The kidneys in a large percentage of cases are involved. They, as well as the stiffened arteries, stand in the light of peripheral resistance, which necessitates a blood pressure higher, much higher in some cases, than the normal.

Dr. Frank D. Reese, Cortland: With reference to cardiovascular disease, I believe the term arteriosclerosis is better, for the reason that it describes the condition and does not name it as a separate disease.

I want to make one more point with reference to the method of treatment. I think treatment should consist rather of a restricted diet. I do not care so much what a man eats as I do the amount he consumes. I believe that if you can get the confidence of these patients you will gain one point, then tell them to skip every other day, that is, to fast every other day. That seems harsh treatment, but it is one of the most effectual methods of treatment in arteriosclerosis or high blood pressure of anything I have prescribed. The fact is we are all eating too much, and it is not the quality but quantity of the food we take.

Dr. Bishop (closing): I want to thank the members who have discussed my paper. The subject is too broad for complete consideration. I think Dr. Angell's point is well taken, but I cannot agree with him as to the harmlessness of alkalies, as I have seen too much evidence to the contrary.

I was called within a few weeks to see a house physician in a hospital, an interne, who had a continued fever and congenital heart disease. He had charge of a case of malignant endocarditis, and I was to decide whether he had acquired malignant endocarditis or not because he had all the symptoms and continued fever. I thought he had typhoid, but the clinical pathologist could not find a Widal reaction or diazo-reaction, but he had continued fever, and urinalysis showed that he had immense quantities of indican in the urine. The absence of the colon bacillus from the intestinal tract and the great superabundance of putrefactive bacilli showed there was a terrible condition of the bowels. The laboratory reported at first it was the worst case of auto-intoxication they had ever had. The urine was loaded with indican. This boy was suffering from intestinal putrefaction. That is what gave him the fever. He had been treated by small doses of sulphate of magnesia. He took a few grains of sulphate of magnesia two or three times a day, and on that treatment he developed the worst intestinal putrefaction we have seen. In other words, the sulphate of magnesia simply neutralized the acidity of the intestines, the lactic acid fermentation, which is unfriendly to the germ of putrefaction. The sulphate of magnesia neutralized that friendly reaction, created an alkaline reaction favorable to putrefaction, and led to that condition. We gave the hospital the benefit of our findings. Nearly all of the doctors in quite a large community were interested in this boy, and the treatment by castor oil and the less fermentable carbohydrates put him in a condition so that he immediately began to improve. That case convinced me still further that it is not right to create an alkaline condition of the intestines when you have got putrefaction.

THE MISINTERPRETATION OF CARDIAC PAIN.*

By ALEXANDER LAMBERT, M.D.,
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WHEN your President asked me to deliver an address before your anniversary meeting, I accepted with pleasure, for I appreciated the compliment bestowed upon me that you should on this occasion care to listen to a general practitioner rather than one versed in your own specialty; but since then I have had many misgivings, and my excuse for bringing forward this subject this evening is that a general point of view is often useful as a foundation for the consideration of specialists, and each patient presents a general as well as a special point from which he should be judged. From whatever point of view we judge it, there is no question of the importance of considering pain in the heart, or more accurately, pain caused by various morbid processes going on in the intrinsic heart muscles and in the circulation supplying these muscles. We often see much time consumed in discussions as to what lesions are present in the valves, as if it were the all important question, while in reality the power to compensate for whatever leak may be present in a valve and the power to keep in equilibrium the circulation resides in the cardiac muscle and with it the necessity of the coronary circulation to nourish it.

When the cardiac equilibrium is upset, and the heart is overloaded with work and unable to accomplish that which is being demanded of it, it expresses its distress first in dyspnœa, then in breathlessness, and finally in an overpowering pain. Various cardiac symptoms may be present without pain, or pain may alone be present, but when the pain is present it invariably means a heart that is struggling to perform its work. The misinterpretation of this cardiac pain can be from various standpoints. First it may be from lack of knowledge of where the pain should be, and of what that pain is; or it is not recognized as cardiac pain because it is considered as referred or reflex pain, and it is therefore misunderstood and judged to be pain from other causes; or again it may be misinterpreted and while it is recognized as cardiac pain its prognostic significance is not understood, and harm may be done from a wrong interpretation of its meaning. It is not necessary at this time to discuss what pain is; by it I mean that disagreeable sensation which both in the lay and medical mind is known as pain. The pathologic processes which bring about pain in the heart, are those which are brought about by the action of those poisons which injure the muscles or the valves, or may damage the coronary circulation. This is a broad field, and includes as you know the infectious diseases, especially diphtheria, influenza, pneumonia, and typhoid, which may injure the myocardium, and above all rheumatism, which injures both the valves and the muscle. It includes alcohol, which poisons both muscle and arteries, and tobacco, which injures the circulation of the heart. It also includes syphilis, which so often degenerates the arterial system. One frequently sees patients complaining of pain in the præcordium during and following the convalescence from pneumonia, influenza, typhoid or diphtheria, and this is but the expression of a poisoned muscle that even with the full value of the circulation and nourishment supplied to it is unable in its degenerated condition to exert the full power and force required of it by the exertions necessary in ordinary life or any unusual exertion that it may be called upon to perform

Pain may occur with almost any of the valvular diseases following rheumatism. It is least common following simple mitral regurgitation. It is very common in mitral stenosis with or without the regurgitation, for the stenosis at the left auricular ventricular opening is due to a subacute myocardial inflammation that goes on, and actively and surely although slowly progresses. Most rheumatic lesions of the valves, as you know, are acute processes that injure a valve, heal, leaving the cicatrix, and are done; but not so are these sub-acute myocardial changes which go on around the left auricular ventricular opening. The inflammation is here in the myocardium as well as in the base of the valve, and it does not cease and heal; it is a progressive lesion, for the myocardium is involved as well as the endo-cardial valve. Rheumatic myocarditis is but little appreciated both as to the frequency of its occurrence and the subsequent injury to the muscle. It is exceedingly common, and the hearts so injured are among those which show the dilatations and the hypertrophies which in after years struggle to maintain the circulatory equilibrium. The rheumatic endo-carditis at the aortic orifice may injure the coronary openings and leave a permanently starved heart muscle. If from whatever cause the circulation of the heart is affected and the arteries are narrowed or so degenerated that they cannot supply nutriment to the muscle, one readily understands how quickly the heart loses its ability to do its work from lack of nourishment, and the progressive arterio-sclerosis around the aortic opening invariably leads to a diminishing cardiac power to accommodate itself to sudden strains and finally even the ordinary work of every day existence. In caring for alcoholic patients, one is struck by the frequency of complaints of præcordial pain, not in the old and degenerated alcoholics, but in the young and vigorous patient. This is especially true after a severe debauch, as if the cardiac muscle was aching from an intense poisoning. This pain is in my experience referred to the left pectoral region. Some of you, doubtless, have not failed to notice an increase in præcordial pain in women since tobacco has be-

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come a more general soother of overwrought nerves. I have found a noticeable increase in such pain among the cigarette smokers. There is no question that to some individuals tobacco is a more deleterious poison than alcohol, and the sharp so-called pseudo-angina from tobacco is in reality the expression of the muscular poisoning and increased vascular tension from the volatile poisoning in the tobacco smoke. The pain is produced therefore, whether it be that the muscle itself cannot overpower its load or the circulation will not give it nourishment to accomplish this endeavor, even though the muscle in itself be fit to perform it. The heart muscle partakes in its general condition of the nourishment with that of the general condition of the body, and we see men and women worn-out nervously beyond human endurance through some strain or struggle of their existence, and though they may appear to be only neurasthenic and worn-out, and we may feel that the pain of which they complain is but a neurasthenic symptom, it may well be that the heart muscle has simply lost its tone and its ability to work the same as the other muscles of their worn-out bodies. Cardiac pain may vary in amount from mere discomfort to what seems to be the most intense agony that the human body is called upon to suffer,—the pain of an unbearable, rending dissolution.

There is a very widely accepted belief that only the text-book pain of præcordial distress radiating down the left arm can really be cardiac pain and of any serious significance. This belief it seems to me is widespread and is one of the many factors in the misinterpretation of cardiac pain. There seems to be a growing realization, however, that the various viscera are in reality not endowed with the means of directly conveying painful sensations, that they are in themselves insensitive when touched and not subject to the ordinary sensations of pain. Certain it is that the more the so-called reflex and referred pains are studied, the more it is realized that these pains are actually the expression of disturbances of function or even of structural change in the viscera. It seems not unlikely that we may finally come to realize that often the earliest expression of some visceral lesion is some peculiar reflex pain which we have hitherto put down as of no consequence because it seemed to be some distant reflex disturbance. William Harvey, years ago, reported that in the case of the son of the Viscount Montgomery, who had a fistulous opening in the chest wall over the heart following fracture of the rib in early childhood, "I found a large open space in the chest into which I could introduce three of my fingers and thumb, . . . and I saw that I was handling the apex of the heart, covered over with a layer of fungous flesh by way of external defense, as commonly happens in old foul ulcers. The youth never knew when we touched his heart except by the sight, or the sensation he had through the external integument." The heart itself, therefore, seems to be devoid of the power to appreciate tactile sensation. Other viscera are likewise insensitive, as Haller showed that in animals the viscera could be cut or burnt while the animals unconcernedly ate their food. The sympathetic system alone does not seem to have the power of localizing the pain within itself, or expressing disturbances in the viscera which it supplies, unless through connection with some cerebrospinal nerve apparatus. As you know, the three sensitive layers of the abdominal wall are the skin, the muscular layer, and the loose connective tissue layer just outside the peritoneum. In visceral disease we are all familiar with the areas of pain and hyperæsthesia in the skin, the hyperalgesia and increased muscle reflexes. Mackenzie points out that between the recti muscle exquisite tenderness can at times be obtained by the fingers pushed down on the deep tissues between these muscles in cases of gastric ulcer, the stomach not being affected by the pressure. Cutting this loose connective tissue layer under cocaine anæsthesia for the radical cure of hernia gives intense pain, while cutting and stitching the peritoneum itself causes no painful sensation. In the abdominal wall in disturbances of the abdominal viscera, in the thoracic wall, in disturbances of the thoracic viscera, lies the expression of the sensations from these viscera which are felt as pain. The reflex and referred pains, so-called, are in reality the actual expressions of the real pains from the viscera. Cardiac pains are expressed, not in the heart, but in the regions of the body wall surrounding it and adjacent to it, when these adjacent areas are supplied by nerves from the same segments of the spinal cord. That pain may be over the heart does not necessarily mean that it is in the heart because it is felt over it. All pain accompanying pericarditis is either in the pericardium or from the nerves under the pericardium and supplying it, but not in the heart. The sensations which are felt in the heart itself, such as palpitation, is not pain but is distinct from it. These sensations of palpitation may be intensely distressing, both because of the feelings of suffocation which accompany them, and because of the shock of the heart beating forcibly against the chest wall. As Herschfelder expresses it, no matter how distressing the sensation of palpitation may be, it is an oppressive sensation and not one of pain. Cardiac pain is not of an intermittent character and no matter whether dull or aching, sharp or stabbing, it does not throb and is not variable with the cardiac beat. We know at present from whence the nerves arise that go to the heart, but in the intricate tangle and snarl of the cardiac plexuses we have as yet been unable to unravel the afferent nerves which surely carry impulses from the heart. Some of these afferent impulses from the heart have been traced by Ludwig and Cyon through the depressor fibres of the vagus. Eyster and Hooker have shown that the afferent impulses from the aorta and coronary arteries

pass upward in the main bundle of the vagus. Head declares from his study of visceral pain that such pain produces impulses which pass into the spinal cord by the white rami, the segment on which they infringe is excited and pain is produced. At the same time all potentially painful influences passing into this segment from the afferent nerves are exaggerated and ultimately the body wall may become tender. Mackenzie has further shown that some cardiac pain is referred to the area supplied by the second and third cervical segments, whose fibres, along with some from the spinal accessory run down to the heart through the vagus. This would account for the occipital headaches and tenderness of the sterno-cleido-mastoid and trapezius muscles which are frequently present. The distribution of the pain and hyperæsthesia, according to Head, bears a close relation to the chamber of the heart most affected, and particularly to the somatic segment of the embryo to which it corresponds; the auricles being supplied by the fifth, sixth, seventh and eighth thoracic segments, and referring their pain to the lower axilla and shoulder blades, the ventricles in the second, third, fourth, fifth and sixth thoracic segments referring their pain to the chest wall from the second to the seventh rib from the ulna surface of the forearm to the wrist and the inner aspect of the upper arm; the ascending aorta being supplied from the third and fourth cervical segments and first thoracic, giving tenderness in the neck of the sterno-mastoid and trapezius muscles, and tenderness and pain at the back of the neck and in the skin down to the collar bone. Pain, therefore, from whatever cause, starting in the heart goes by whatever channel to some segment from the third or fourth cervical, skipping the fifth, sixth, seventh and eighth cervical, again reappearing in the first thoracic down to the eighth. The intensity of the beginning disturbing impulse probably has something to do with the intensity of the extent of the spread into the nerves of the corresponding segment. If the impulse is sufficiently strong not only is it expressed as pain, but it is further expressed as hyperæsthesia in the skin and areas of hyperalgesia. It may further excite the motor nerves of that segment, and produce the terrific vice-like sensation and cramp-like spasm of rigidity with which the thoracic muscles hold the chest walls, as in a vice, in some of the severe anginal attacks. The counterpart of this muscular reflex is familiar to you all in the adbominal rigidity in visceral lesions and visceral pain from the abdominal viscera. We have long acknowledged that there is a referred cardiac pain and a reflex cardiac pain, and we have considered that pain in the præcordium was within the chest and not in the body wall, but we have failed to realize that the so-called referred pain in the chest wall was in reality the true cardiac pain, and the extension down the arm was not another reflex pain, but simply a further extension of the same original cardiac pain expressed by a different or the same segment of the cord. There is no difference in the kind of pain from the viscera, or from the pain with which we are familiar when due directly to the irritation of the cerebro-spinal nerves. For this reason, together with our failure to realize that referred pains may be the true pains of the expression of a visceral and not an external condition, has made possible the many misinterpretations of cardiac pain. How many times have we seen the areas of tenderness and hyperæsthesia in the skin around the fifth, sixth and seventh ribs described as intercostal neuralgia, when the enlarged cardiac area and the dyspnœa on exertion should have shown the real source of this sensitiveness. How many times has the pain on exertion, by which a struggling heart has endeavored to express itself to the investigating physician been interpreted as pleurodynia. In each generation of the medical profession, there seems to be the necessity of an asylum or some restful mental concept into which we may put to rest all doubtful and troublesome pains and aches that we cannot understand. Formerly, as I have said, we have had the pleurodynia and the gastralgia, and many neuralgias, and they are not gone yet. The general malaise of beginning tuberculosis was formerly always malaria. To-day rheumatism performs the duty for aches and pains due to any disturbance of muscle, bone, joint or viscera. The patient is ever ready with the suggestion, and it saves trouble and thought in diagnosis to acquiesce. Some of us have had patients come in with a pain in the wrist, as one did to me the other day, saying that whenever she went upstairs the rheumatism in her wrist became worse, and came to me for an explanation. Probably more cases of angina pectoris have been misunderstood as rheumatism than any other single misinterpretation, but I think it is time to realize that we must begin to differentiate more accurately than neuralgia, pleurodynia or rheumatism enables us to do, and to realize that if we misinterpret what we believe to be reflex and referred pains from the various viscera, we will fail to recognize the early signs of internal disease.

Considering the misinterpretation of cardiac pain that has been recognized as such, we are dealing, it is true, with the most difficult part of medicine—that of prognosis. Many acquire knowledge but few wisdom, and prognosis is really the wise judgment based on shrewd observation and broad knowledge of disease. It is unfortunate that we cannot inherit the acquired wisdom of a wise father, for we might in that way accumulate in generations a perfect prognostic sense, but unfortunately the experience of a single individual is always limited, and few men seem to have the ability to profit widely by the experience of others, so that wise prognostic ability is a rare quality.

In interpreting the meaning of cardiac pain, let us consider first the prognosis from the point of view of the amount of pain. Slight pains

over the heart that seem to be in the chest wall, that seem to follow only from weariness, which come and go in various forms of endo-cardial murmurs, but which leave no hyperæsthesia of the skin or hyperalgesia of the muscles beneath, are of less serious prognostic import than those of the more severe type which leave the following day a sensitiveness in the thoracic wall, or even those in which the hyperalgesia has extended down on the areas of the inner side of the arm. The extent in area of pain over the chest and down the arms has not in my experience been in ratio to the severity of the lesion or the severity of the prognostic outlook. I have seen fatal angina attacks in which the pain was situated only at the elbow or only at the wrist, and the area in which the pain was located was but small in extent. I have seen very moderate attacks of angina with which the patient lived for several years after, in which there was a hyperæsthesia over quite an extensive area in the pectoral region. The intensity of the pain is in some ratio to the severity of the lesion, and of corresponding prognostic significance, but there is always the danger in slight amounts of pain that they may be the precursor of some intense attack which may be fatal. In all slight attacks of pain, therefore, one should weigh it not alone as to mere quantitative amount of the pain, or the consequent hyperæsthesia and hyperalgesia, but take it in consideration with the cardiac condition which we believe we find beneath. When pain comes after slight exertion, when the arteries are not in hypertension, when the heart does not seem to be dilated, when on examination there seems to be but little the matter with the heart, then is the prognosis the worst of all. It is a heart that is injured intrinsically—and in a general way the less we can find the matter with the heart to our ears and our fingers, the worse is the prognosis when attacks of pain set in. If the heart is dilated, and if the lesions in the valves do not seem to be too extensive for some recuperation of its equilibrium, we may be able to greatly alleviate the attacks of pain and the struggles of that heart. Again the prognosis seems to vary with the endo-cardial lesions that are present. In those of mitral regurgitation alone when pain is present it is of less serious import than when the progressively inhibiting closure of the mitral orifice is going on with the myocardial inflammation of mitral stenosis. The prognosis in that lesion, as is known to you all, is of much more serious import, and pain under these circumstances should always be treated with attention and respect. In aortic lesions attacks of pain imply the interference of the coronary circulation at the origin of these arteries in the aorta, for often the arterio-sclerotic changes at the base of the heart is extending down into the coronaries. Pain here may mean the beginning of a heart starving for nourishment and be of serious import. If the pulse be of low tension the prognosis is worse than if we are dealing in these cases with high tension pulse, which may come as an expression of a general vaso-motor tension, and the attacks of pain then may be of the vaso-motor type of causation, for with a low tension pulse we come back to the cases with damage in the heart itself, while with the high tension pulse there is some hope that we are dealing with a form of angina vaso-motoria. The more we have studied the symptom complex of angina, the more we realize that there is, besides the type of which we have just been speaking, or where pain comes from damage in the heart itself, another type in which a relatively competent heart cannot struggle against high tension arteries, and cannot overcome the load in front of it. The prognosis in these cases of cardiac pain rests entirely with our ability to change the existence and habits of life of the individual, and to bring about a reduction in the hypertension. These are the types of cases in which tobacco and over-eating and over-drinking play so great a part, and which the long-continued strenuous life has brought the arterial tension to a dangerous height. It may be said with Mark Twain that fortunate are these patients if they have some few bad habits to give up. Their prognosis is thereby improved. Naturally in hypertension cases with pain, the prognosis is worse in those whose kidneys have already shown some chronic lesions, for they have gone a step beyond those in which hypertension is still present as an expression of mere wrong habits of existence, for with the kidneys damaged the delicate equilibrium of relative health is much more unstable than in those in which these lesions have not yet occurred. The misinterpretation of cardiac pain is all the more of serious import now that we realize that a heart, even if defective, or if it shows the evidences of some degeneration, should be made and trained to do all that it can do, for by the exercise of its function it is distinctly strengthened, and we do not to-day necessarily condemn the individual to an invalid life as we did formerly because of cardiac pain or what we consider cardiac disease, and for this reason the responsibility of judging accurately as to the causation of the pain is all the greater. Often we are forced to judge to what extent we consider the heart damaged, and the existence that the owner must lead must also color our prognosis. If the damaged heart must sustain the physical work of the laborer, must sustain also the careless habits in the use of alcohol and tobacco of many of that class, then is the prognosis distinctly worse than if the owner is able to permit the exertion to come or not to come upon a damaged heart, and if he is sufficiently willing to be careful in his manner of life, then can we give a better prognosis, even though in these two conditions the pain for which we have been consulted may seem to be equal and of equal import.

The subject of pain in general and that of

cardiac pain in particular, has always seemed to me to be a subject of the greatest moment to the patient. In our relation to our patients, accuracy of diagnosis is often an intellectual procedure of more interest to the physician than to the patient as far as any satisfaction to be obtained from it is concerned; but on it depends so greatly the two points which are of the greatest interest to the patient and are the real reasons for which he goes to the physician—that is, what is to be done for the pain, what does it mean, and what does it amount to. At present in our scientific endeavors, by the multiplication of our laboratories and our facilities for increased accuracy of diagnosis, even some of the leaders among us fail to realize that the other questions concerned in the problem are the all important ones in our relation to our patient. True it is that he who diagnosticates well will cure well, but while we are perfecting our science of medicine, it is as much our duty to perfect also the art of medicine, and let him that acquires medical knowledge strive that he also attain to medical wisdom, for then will the misinterpretation of pain be of much rarer occurrence than it now is.

CONCERNING THE TREATMENT OF TUMORS OF THE URINARY BLADDER WITH THE OUDIN HIGH-FREQUENCY CURRENT.*

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NEW YORK.

IN the May 28, 1910, issue of the *Journal of the Amer. Med. Asso.*, I reported a new method of attacking vesical neoplasms, and mentioned the immediate effects seen in the two extensive primary tumors thus treated. In that preliminary report I promised to publish at some future date the full details of these cases. In this paper I wish to present these cases in some detail, calling attention to the end results, the greater part of a year having elapsed. I shall also avail myself of this opportunity to mention some corroborative experiences of others as well as of myself in this new therapeutic work.

CASE I.—Mrs. J. S., 81 years, Hungarian. On February 24, 1910, admitted to Mt. Sinai Hospital, First Surgical Service.

Past History.—Menopause 31 years ago. Typhoid fever at 18 years.

Present trouble began two years ago with hæmaturia. During intervening period has had hæmaturia irregularly. At first less frequent, now more frequent. Hæmaturia at present has continued for a month. Between attacks she passes clear urine. During attacks there is increased frequency. Has had pains in both lumbar regions. Has lost weight. Has not passed gravel or calculi. Chief complaints, hæmaturia without pain, and loss of weight and strength.

Physical Examination. — Poorly nourished, very anæmic old woman. Lungs show signs of emphysema. Heart shows systolic murmur at the apex as well as at base. Pulse is high tensioned, vessels are sclerosed. Liver and spleen are negative. Right kidney is palpable. Hæmoglobin 23 per cent. Red blood-cells 1,664,000. Urine is bloody in color, alkaline, 1022, moderate amount of albumin. Microscopically it is loaded with red blood-cells and white cells.

March 4, 1910: *Cystoscopy and treatment of tumor with high-frequency (Oudin) current introduced through catheterizing cystoscope.* A cauliflower tumor surrounded the position of the right ureteral meatus, extending well to the right towards the lateral wall. The villi were very exuberant, protruding approximately 2 cm. into the bladder's lumen. The shape of the growth was slightly ovoid and in size it was as large as a dollar piece, the main part of the growth being to the right of the right ureteral meatus and apparently sessile. The Oudin current—without resistance—applied at three points: two at the base, 15 seconds each, and one among the villi for 30 seconds, making one minute in all (Fig. 1).

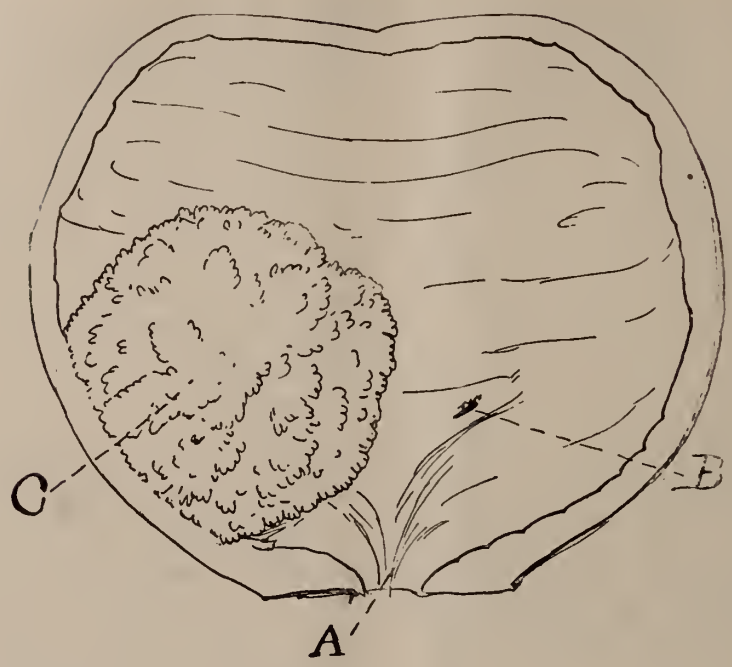
March 6, 1910: Bleeding continues. Patient complains of burning on micturition; also of increased frequency.

March 7, 1910: *Second treatment for 2½ minutes through cystoscope.* The three points of application of March 4th are distinctly visible, the shorter applications as white necrotic areas, while the longer application shows a gray-black necrotic crypt, more than twice the size of the areas affected by the shorter applications. At the second treatment five points of application made for 30 seconds each, the electrode being buried among the villi. Marked formation of gas was noted and tumor tissue regularly becomes adherent and baked to electrode. The insulating rubber at tip of electrode regularly softens and melts, exposing the copper cable which necessitates withdrawal of electrode and cutting of same so as to make rubber flush with cable. No sparks visible. At this seance and in all subsequent ones the rheostat lever was placed vertically, allowing much less current to flow into the electrode than at first treatment, as I wished, naturally, to exercise every precaution.

March 9, 1910: *Third treatment lasting 3½ minutes, 30 seconds at each site.* The surface of most of growth is necrotic, and goodly sized pieces of dead tumor tissue break off readily

* Read in part before the New York State Medical Society, at Albany, April 18, 1911.

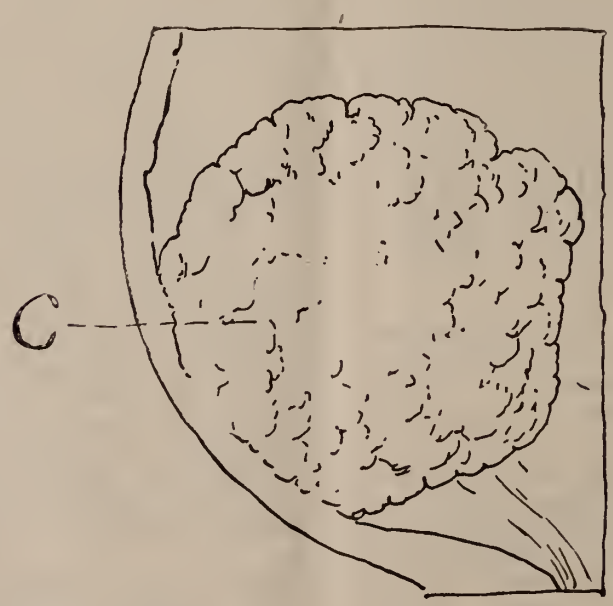
FIG. 1.



Shows posterior wall of bladder. *A*, neck of bladder; *B*, left ureteral ostium; *C*, large villous growth surrounding the right ureteral ostium.

CASE I.—F., 81 years, Feb., 1910. Two years' history of attacks of hæmaturia. Present attack began one month ago. Cystoscopy showed a large papillary growth stained with blood, surrounding the right ureter. The base was sessile and the villi were very delicate.

FIG. 2.



Shows the portion of bladder occupied by the growth *C*, which is now totally necrotic superficially, and the villi are no longer distinct.

and some were recovered for pathological examination. Applications made at seven points. Pieces of tumor became baked to electrode and were removed for microscopic examination. (Diagnosis papilloma. Impossible to say from small specimen whether carcinoma is present in deeper layers.) During this treatment bleeding set in and by local application of the current it was controlled.

March 11, 1910: *Fourth treatment through cystoscope, 1½ minutes application of current.* As whole tumor seemed necrotic after the previous treatments aggregating seven minutes in all, the fourth treatment was very brief, lasting only 1½ minutes. Carbonized pieces of tumor came away after this treatment (Fig. 2). Patient still complains of bladder irritability. The trigone is reddened, whereas the mucosa of the rest of the bladder is normal. Urine is almost clear, and contains regularly pieces of necrotic tumor appearing as dead white debris.

March 17, 1910: *Fifth application lasting 1 minute,* made as a demonstration of method for Drs. Keyes and Barringer. The tumor is dead grayish white, and whole surface appears necrotic, so that large pieces can be broken off without bleeding. The extreme right pole of the tumor shows a small pink-red nodular area, flattened on the bladder wall. This was cauterized for 1 minute. Under the current the mass became black—carbonized—in spots and white in others. Loose pieces of tumor debris are seen lying on bladder floor.

March 17, 1910: Bladder irrigations begun to help separation of necrotic tissue and wash debris away. Urine is clear. No more blood.

March 26, 1910: Cystoscopy. The tumor has changed very much in appearance. It is smaller and much flatter. Between the necrotic villi that are still attached the deep red velvety mucosa is seen in many places. With Blum's snare and forceps large masses of necrotic tumor are readily torn away from the rest of the growth without causing any bleeding, exposing large areas of red bladder wall.

March 31, 1910: Cystoscopy. The appearance of the necrotic growth is much changed. Almost all the tumor has separated flush with the bladder mucosa and normal mucosa separates the two poles of the growth. In this area the normal ureteral meatus is now visible for the first time. It is apparent now that there were three distinct papillomata, growing in close proximity, separate at their bases and confluent superficially.

April 3, 1910: Cystoscopy. More of the necrotic tumor has separated, so that the ureteral meatus is even clearer and surrounded by healthy mucosa. The tumor base is more nearly level with the bladder, and what is left is in great part necrotic, though here and there distinct pinkish red areas (viable tumor ?) are seen. Mass D (Fig. 3), though totally necrotic, floats freely as a pedunculated piece of tissue still adherent to the bladder wall, mesial to the ureteral meatus, attached at its base.

April 6, 1910: Cystoscopy. The necrotic tissue is still separating and tumor base shows almost smooth mucosa with two small papillary areas partially covered with necrotic surfaces. These are situated at E and F in Fig. 3. After further separation of the slough the velvety red areas appeared. Mass D is also seen in this picture still attached to bladder wall.

April 9, 1910: Hæmoglobin is 65 per cent. Cystoscopy. Right ureter is catheterized, its lumen being uninfluenced by the removal of the growth, admitting readily No. 6 French. The necrotic mass D is smaller. When pushed by the catheter, mucosa is seen to encircle its base completely. To the right of the right ureter is normal mucosa except at the two spots or velvety red areas mentioned above, the bases of the two papillomata. These areas look spongy and, being slightly raised, I suspected that they were remnants of the tumor and treated them accordingly.

April 14, 1910: *Cystoscopy and high-frequency application* to the two flat masses E and F (Fig. 3) and to the base of D, the pedunculated necrotic mass having separated since the last examination. Applications to these areas lasted 5-15 seconds, aggregating 1¼ minutes in all.

May 11, 1910: *Cystoscopy and high-frequency for 1½ minutes in all, 10-15 seconds each application.* The mucosa at site of D (Fig. 3) is absolutely normal. The two flat areas treated on April 14th are minute, and the one that received the more active cauterization has almost entirely disappeared. Both of these areas were again treated with high-frequency. The rest of the bladder is absolutely normal.

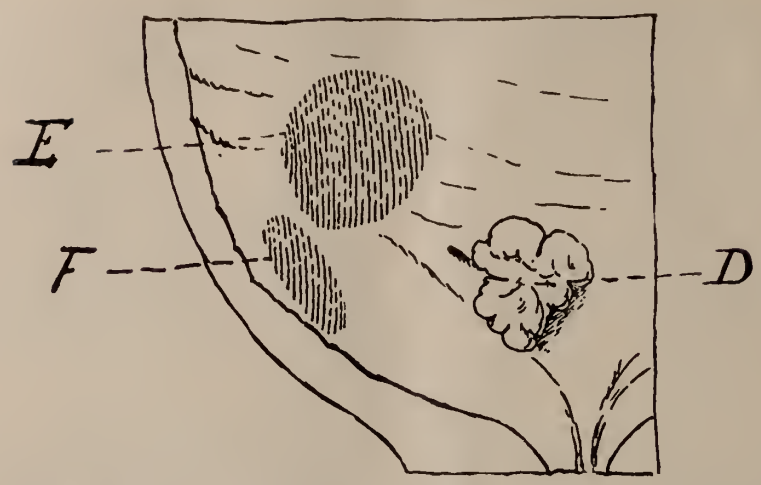
After this treatment the patient returned to her home again, having been discharged shortly after the April 14th treatment.

June 1, 1910: *Cystoscopy and high-frequency for 1 minute.* The areas treated at the last session show small central sloughs surrounded by hemorrhagic mucosa. Though no definite signs of tumor are visible, these same areas were again treated.

June 29, 1910: Cystoscopy. No signs of tumor are visible. Two-minute sloughs with radiating areas indicate areas cauterized at last session. As there were no suspicious spots no high-frequency treatment was given.

August 10, 1910: Cystoscopy shows an absolutely normal bladder. No evidence of scar tissue. Mucous membrane is absolutely smooth and normal in every particular. (Demonstrated to Dr. A. V. Moschowitz.)

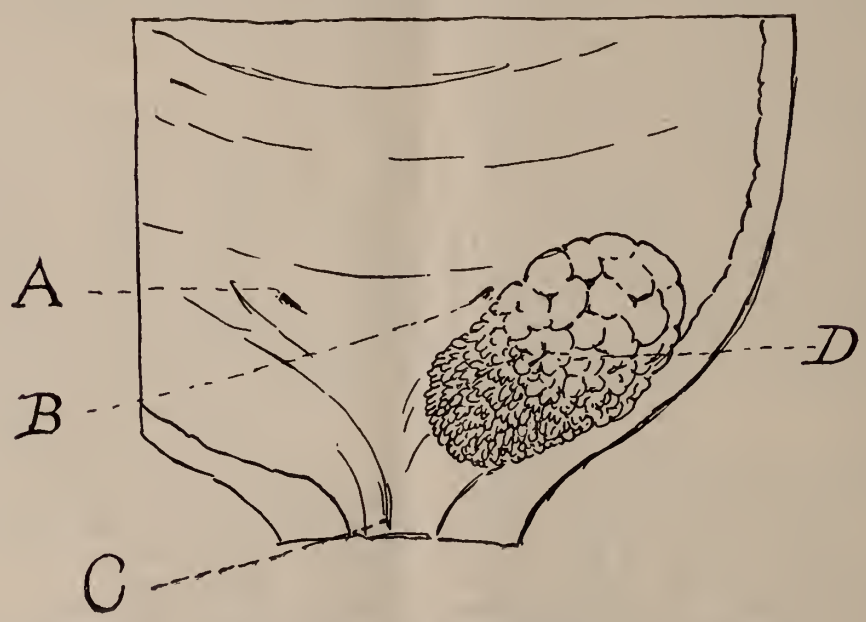
FIG. 3.



D still shows adherent necrotic villi; *E* represents base of one of the original papillomata; *F* represents base of the third papilloma.

CASE I (April 6, 1910).—Most of the necrotic tumor has been thrown off. A small necrotic mass still adheres close to right ureter, which is patent to catheter No. 6, French. Well off near lateral wall, two small areas of apparently viable tumor. As the necrotic area separated completely, its base and the two more laterally placed, slightly raised, suspicious areas were treated, and since May 11, 1910. patient's bladder shows no sign of previous disease.

FIG. 4.



Shows posterior wall of bladder. *A*, right uretreal ostium; *B*, left ureteral ostium; *C*, neck of bladder; *D*, coarse papillary tumor.

CASE II.—F., 66 years, April, 1910. Ten years' history of attacks of hæmaturia. Present attack began nine weeks ago and is very severe. At first treatment bleeding ceased, so that tumor could be readily seen in subsequent examinations. It was made up of fine villi and coarse bulbous papillæ. It was well stained with imbibed blood and sessile. It was much flatter than the tumor of Case I.

November 15, 1910: Cystoscopy. Patient shows absolutely normal bladder. Slightly white mucosa (scar tissue ?) at site of original growth and fine new formed vessels in this vicinity. Patient's urine is clear but there is still some increased frequency. (Demonstrated to Drs. Gerster and Lewisohn.)

January 4, 1911: Cystoscopy shows normal bladder. (Demonstrated to Dr. Ware.) No sign of recurrence.

March 8, 1911: Cystoscopy shows normal bladder. (Demonstrated to Dr. Hyman.)

April 14, 1911: Cystoscopy shows absolutely normal bladder. (Demonstrated to Drs. Braasch, Herrick, and Hyman.)

July 7, 1911: Cystoscopy shows normal bladder.

Remarks.—In this patient of 81 years the condition was considered inoperable. The large papillary growth made up of three confluent tumors surrounded the right ureter. To remove the growth and reimplant the ureter would have been too severe a strain for this anæmic old woman. In eight seances, aggregating 13¼ minutes application of the Oudin current, the tumor was painlessly destroyed and the patient has been completely restored to health. There is no sign of recurrence.

Case II.—Mrs. E. K., 66 years, German. On April 6, 1910, admitted to Mt. Sinai Hospital, First Surgical Service.

Past History.—Menopause 16 years ago. Had six children and three miscarriages.

Present trouble began 10 years ago. Symptoms at that time were hæmaturia lasting several weeks, increased frequency of urination, and burning on urination. Three years ago (June, 1907), had second attack of hæmaturia lasting three months. At this time I cystoscoped the patient at the German Hospital and found a papillary tumor the size of a hazel nut a little to the left of the left ureteral meatus. The patient refused operation. One year ago the third attack of hæmaturia began. This lasted two weeks. Nine weeks ago the present fourth attack began. The urine is very bloody and frequently contains large clots. Urination is every half hour during the daytime and three or four times at night. At present there is marked tenesmus. Patient has lost much weight and is steadily growing weaker. Two days ago she fainted.

Physical Examination (abbreviated).—Very feeble, very pale old woman, showing all the signs of a chronic progressive anæmia. Lungs, heart, liver and spleen normal. Hæmoglobin 45 per cent. Urine is intensely red in color, resembles pure blood.

April 6, 1910: *Cystoscopy and 4 minutes' application of the high-frequency current (Oudin) to the papillary tumor.* As soon as the patient was admitted the treatment was instituted with the object of immediately controlling the excessive bleeding. Cystoscopy was almost impossible, and I doubt whether I could have located the growth without an air cystoscope, if I had not made notes of the position of the tumor three years earlier (Fig. 4). The active bleeding was uncontrolled by 1 per cent. alum solution as well as by cold water. A view of the tumor was obtained only after a great deal of irrigation and filling of the bladder through the cystoscope while searching for the growth. As soon as it was located, the high-frequency current was applied at eight different points for thirty seconds at each. This controlled the bleeding almost completely at once. Even directly after the first application the bleeding was sufficiently controlled to allow me to get a fairly distinct picture of the growth, making subsequent applications much simpler.

The tumor was as large as a walnut. It was coarsely papillary and sessile. It lay 1.5 cm. to the left of the left ureteral meatus. It was stained with blood pigment. Specimen sent to pathological laboratory.

April 7, 1910: By this morning the urine was clear. There was no pain in bladder or urethra. No irritability. The specimen of tumor which had been removed, baked to electrode, shows papilloma (partly charred).

April 11, 1910: Urine has continued free of blood. *Cystoscopy (second) and high-frequency application for 4½ minutes.* The tumor is smaller, and many small fragments are lying free in the bladder, the anterior half of the growth is beginning to necrose whereas the posterior half is still pink in color. The current was applied to this part, and at superficial points of application the tissue became white about the carbonized center where the electrode established the contact. Frequently the tumor became so adherent to the electrode that, on drawing on same, it looked as if the whole tumor could be pulled from the bladder wall. This occasioned slight bleeding once, which was at once controlled by an application of the current. The rest of the bladder mucosa shows no sign of irritation.

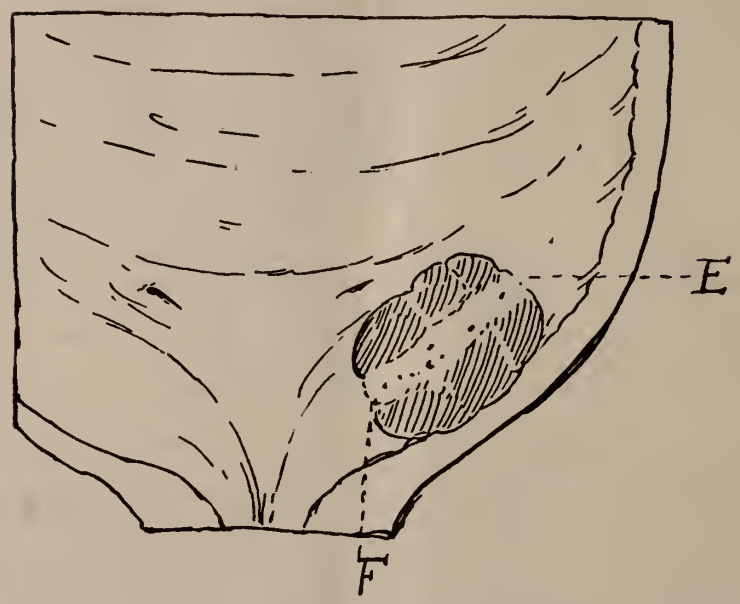
April 13, 1910: Cystoscopy (third). The tumor is smaller and seems necrotic. The patient was then discharged with orders to return in four weeks, allowing this period for the process of sloughing to take place.

May 25, 1910: Owing to unfortunate circumstances treatment was discontinued up to date. There have been no symptoms referable to the tumor.

Cystoscopy and high-frequency for 5 minutes (30 seconds application.) The tumor is about half its original size and its structure is very fleshy and very firm.

Fig. 5 represents the condition very admirably. Papillary outgrowths and thick villi have disappeared completely. This peculiar lobulated mass covered with mucosa seems to

Fig. 5.



E to *F* shows line of application of the current as white scorching with black spots of charring.

Case II (May 25, 1910).—The tumor is less than half its original size. The necrotic villi, etc., have been thrown off, and a rather flat, lobulated, very firm mass remains at the site of the original growth. This, I believe, is an involution form or a stage in the retrogression of the original tumor. At that time I thought it rather hopeless to attempt to destroy such a solid growth, but nevertheless gave the patient five minutes' treatment, producing the irregular white and black eschar across its surface. On June 8, 1910, there was no sign of any previous tumor in the bladder, and since then there has been no recurrence.

be a stage in the retrogression of the tumor. Attempts at cauterizing the remains of the "growth" caused some pain, perhaps owing to the fact that I was treating the thickened bladder wall, which, as stated, at times reacts in this way while the tumor is retrogressing. An extensive linear burning of a large part of the surface of the "growth" was made (Fig. 5).

June 8, 1910: *Cystoscopy and high-frequency for 30-40 seconds.* At the site of the tumor no projecting tissue is visible. There is a small linear slough marking the points of application of the current at last treatment. Adjacent to this a few brief applications were made aggregating in all about 30-40 seconds. Whether some minutes vestiges of neoplastic tissue still persist despite the fact that they are not visible through the cystoscope, time alone can tell. Patient ordered to return in four weeks.

July 6, 1910: Cystoscopy shows no signs of recurrence. A minute slough is still attached at original site of tumor and from this the mucous membrane is thrown into radiating folds as if drawn by scar tissue formation into this condition.

August 31, 1910: Cystoscopy. Bladder is absolutely normal. (Demonstrated to Drs. A. V. Moschowitz, Lewisohn, and others.)

October 26, 1910: Cystoscopy (21 weeks since last treatment.) Bladder is absolutely normal.

January 4, 1911: Cystoscopy shows absolutely normal bladder. (Demonstrated to Dr. Hyman.)

March 8, 1911: Cystoscopy shows absolutely normal bladder. (Demonstrated to Dr. Hyman.)

April 14, 1911: Cystoscopy shows absolutely normal bladder. (Demonstrated to Drs. Braasch, Herrick, and Hyman.)

July 7, 1911: Cystoscopy shows normal bladder.

Remarks.—In this patient there was a fair sized sessile growth which was bleeding very actively. The very first application and the very first treatment controlled this, so that the urine was absolutely clear twelve hours after the treatment and has remained so ever since. This growth was about half the size of the growth in Case I, and by means of the treatment employed in four seances aggregating 14 minutes' application the growth was totally destroyed. Had I understood the significance of the picture represented in Fig. 5, I probably would have dispensed with the last two seances and consequently have cured the patient after only 8½ minutes' treatment. This patient continues in

the best of health. There is no sign of recurrence.

In addition to the above I have had eight other opportunities to study the effects of the Oudin current on vesical growths, and I shall report these experiences briefly at this time.

Case III.—Male, 54 years. In this patient symptoms of tumor dated back 22 years. Examination showed the most extensive primary papillary growth that I have ever seen. The tumor stretched from the neck of the bladder across the trigone, over the left ureter and the left two-thirds of the trigone, thence up the left lateral and posterior walls to well above the equator, taking in between one-quarter and one-third of the whole bladder wall. This patient was difficult to treat, not only because of the great size of the growth but also on account of severe bleeding and of bladder irritability. In nine seances aggregating 34 minutes' application of the current the whole tumor was destroyed and gradually thrown off in large and small pieces. The patient is in excellent health and has gained 32 pounds. Judging from the experiences in Cases I and II, this patient seems cured.

Case IV.—Female, 67 years. Referred to me by Dr. S. Brickner. This patient had suffered for some years with painless hæmaturia. The first and only treatment was given during severe bleeding. The brief treatment had practically no effect on the bleeding, and while I was waiting for it to subside a little, so as to make inspection of the apparently very large growth more easy, four days after I had treated the patient she fell over dead while sitting at breakfast. During the previous days she had felt perfectly well, having been up in a chair most of the time.

Whether we are to connect this sudden death with the treatment or not is difficult to decide. No autopsy was granted, so that we cannot state whether death was due to a sudden hemorrhage in the brain or an embolism. The family of the patient had been told by the family physician that owing to her cardiac condition she would die suddenly, as she did. Be that however as it may, I suppose an embolism might arise from a bladder growth, and such an occurrence must be considered a possibility though very improbable, judging from all experience up to date. Cases V and VI had four papillomata, and in these the use of the high-frequency current was most effective in destroying the tumors. They responded just as well as the Cases I, II, and III, and appear to be well on the high road to complete and permanent cure.

To recapitulate, therefore, I have treated successfully up to date five cases of primary papillary tumors of the bladder, aggregating nine distinct tumors, with this new method, and judging from the results in Cases I and II, it seems clearly demonstrated that these cases can be cured definitely in the manner here described.

In addition I have treated two cases of recurrent papillary tumor of the bladder. One case is still under treatment, and a large part of the very extensive growth has been thrown off. The original tumor was excised some years ago and was diagnosed as carcinoma by a competent pathologist. Whether patient and conscientious treatment in this particular case will lead to a cure it is impossible to say up to date.

The other recurrent case could not be adequately treated, as the old suprapubic wound opened up and the patient gradually developed a fatal renal insufficiency. As the result of one treatment in this case, larger pieces of the papillary growth sloughed away, as in all the other cases. These two cases were the most difficult to treat, as their tumors were most extensive and could not be seen in their entirety with either the indirect or direct vision cystoscope. Both instruments had to be used in applying the current. Both cases illustrate the inefficiency of the suprapubic method, as well as the fact that many of these cases are worse off after such an attempt at removal than they are with their original growths (Cases VII, VIII).

Two undoubted cases of carcinoma of the non-papillary type I had an opportunity to treat. As was to be expected my results were negative. They were extensive growths, and as they were very firm I desisted very quickly (Cases IX, X).

The Experiences of Others.—It is most gratifying to find that a number of surgeons have already tested this new method and are satisfied with it. Dr. E. L. Keyes, Jr., has published his early experiences in the *American Journal of Surgery*, vol. XXIV, No. 7, July, 1910. Drs. L. Buerger and A. L. Wolbarst have published theirs in the New York Medical Journal, October 29, 1910, and Dr. J. F. McCarthy has read of his results at several medical meetings.

Through the courtesy of these gentlemen and through that of Dr. C. Elsberg and Dr. M. Ware, I have been able to gather from the experience of all these surgeons a large number of papillary tumors of the bladder that have responded to the high-frequency treatment as satisfactorily as the cases I have detailed above *in extenso*. From correspondence with these surgeons who have treated in all twenty-seven papillary growths, I see that their experiences coincide closely with my own and that they all prefer this simple method of attack to the older operative method. Whether most of these twenty-seven tumors are permanently cured it is too early to say. Dr. Keyes writes that nine tumors of his series he considers cured, such cures being verified by cystoscopic examinations in one case twelve

months, in another nine months, in still another six months after destruction of the original papillomata. Of Dr. Buerger's cases, two controlled in the same way have remained well the greater part of a year also, whereas in another case, as in that of Dr. Elsberg, a new tumor developed in another part of the bladder. These metastases are responding, both gentlemen inform me, just as satisfactorily as the original growths.

From all these observations based on the application of the high-frequency treatment as used in some thirty-eight papillary growths, it must be evident to the most sceptical that in this new method we have raised a mighty rival to the older suprapubic and to the transurethral operative cystoscopic methods. I believe that it will supplant previous methods, because of its far greater simplicity and its great effectiveness.

Technic and Dangers.—A. The method of employing the Oudin current for the removal of intravesical neoplasm is the same as described in the May 28, 1910, issue of the *Journal of the American Medical Association* and subsequently in the *Zentrallblatt für Chirurgie,* No. 34, 1910. In the latter communication a mistake was made in stating that the spark gap in the muffler is approximately 25 cm. This should have read 0.25 cm.

The essential instruments for this therapy are: (1) a high-frequency machine with Oudin resonator;[1] (2) a catheterizing cystoscope; (3) a heavily insulated copper electrode.

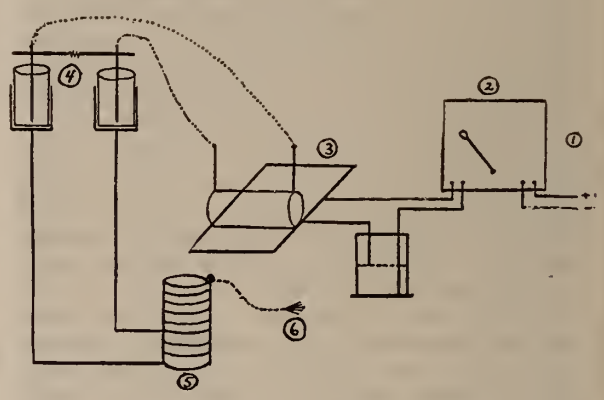
After the bladder has been washed and then filled with distilled water, the cystoscope armed with the electrode is introduced. The electrode is pushed a short distance in amongst the villi and the current is allowed to play for 15-30 seconds at each application. The nearer the electrode approaches the base of the growth the shorter should be the applications, lest the bladder wall be injured. Moreover if the electrode touches the bladder wall it causes pain, otherwise there is no pain. By making repeated applications at different spots the whole growth will be rapidly destroyed, and as it disintegrates it is voided in small pieces, as a rule. This process of separation in very large growths may extend over several months. As stated, I employed the Oudin current derived from a Wappler machine, usually placing the rheostat vertically, so that

[1] To produce the current essential to the therapy discussed in this paper, I have used the high-frequency apparatus manufactured by the Wappler firm. The Oudin current is derived from the resonator, and is unipolar, thus allowing of the use of only one intravesical electrode. The current oscillates very rapidly and is of very high voltage. The source of the original current may be the usual street current. If this does not alternate the high-frequency machine must be fitted with an alternator. The accompanying sketch (Fig. 6) taken from de Keating-Hart (1908) shows diagrammatically how the Oudin current is generated from the street current.

Note.—Instead of the induction coil and interrupter the latest model instrument uses a closed magnetic field transformer ("step-up") which gives more rapid oscillations and can be effectively employed in any room.

The Oudin current has been known for some fifteen years and has been used with varying success in a number of skin conditions. Of late it has been used in malignant disease by de Keating-Hart. Almost all workers with this current have made use of a spark of varying length holding the electrode at some distance from the lesion and playing the sparks upon this. Early in my experimental work on skin warts, I saw that direct contact between the current and the electrode was much more effective in destroying the warts than when an air gap was maintained. The cauterizing effect of the current thus used can be easily demonstrated experimentally on a piece of raw meat immersed in water in a pus basin (non-insulated). The point of application of the electrode becomes rapidly white and in a few seconds the cauterization progresses to carbonization. While this takes place hydrogen is freely generated. A current of equal intensity applied through an air gap has no such effect. Moreover, according to the analyses made up to date, metallic copper appears to be regularly present in the tissues at some distance from the point of application when contact is made but not otherwise. Investigations along these lines are not concluded as yet. Up to date it would appear that the current as used in the treatment outlined in this paper has several activities in addition to being a powerful cautery. It is only fair to say that physicists have rather regularly denied this.

Fig. 6.



(1) represents source of current (street); (2) rheostat, meter, etc.; (3) induction coil and interrupter; (4) condenser and spark gap; (5) Oudin resonator and terminal; (6) electrode delivering the Oudin current.

In view of the ready handling of the Oudin current and in view of its marked cauterizing effects, it will surely prove of great therapeutic use in a great variety of conditions, not only in the bladder and urethra. In these parts it has proven an ideal cautery in my hands. The applications can be made under the guidance of the eye through cystoscope or urethroscope, and small or large areas can be cauterized as each case demands. In papillomatosis of the larynx I feel sure from experience in one extensive case, it will prove as useful as in the similar vesical condition.

[2] Of late I have used the Bransford-Lewis cystoscope, as it allows of direct and indirect vision applications at one sitting without withdrawing the instrument.

[3] Outside of the body this gas produced in similar manner appears to be hydrogen.

half the resistance was thrown into the circuit. If a stronger current seemed necessary I threw out the rheostat altogether. The spark gap in the muffler was made between one-eighth and one-quarter inches. Usually I employed a short gap.

As a rule, I employed the Nitze double catheter cystoscope. In one catheter tunnel I placed the electrode and to the other I attached a tube for irrigation. A direct cystoscope is useful in some cases, in others absolutely necessary.[2]

The electrode employed was a simple 6-ply copper wire thoroughly insulated and cut off squarely at the end. The end has to be pruned repeatedly as the rubber insulation melts during usage. This electrode I procured through the Wappler firm.

Applications.—The applications were made directly to the growth, the electrode being pushed a short distance in among the villi under the guidance of the eye, and then the current was turned on at various points for 15-30 seconds, the bladder being distended with distilled water. In my early seances I made the treatments rather short. The longest total applications that I have used at one seance aggregated 10 minutes, 30 seconds at twenty different spots. This was an enormous tumor and so long an application surely is not necessary except in such cases. A total of 3-5 minutes at one sitting will suffice usually. A few days later it should be repeated, provided any viable tumor tissue is visible, as at the original sitting it is impossible to determine how extensively one has destroyed the growth. Treatments are discontinued as soon as the whole growth appears necrotic. The sloughs are allowed to separate spontaneously or helped along with bladder irrigations. After the base is thus exposed (after three weeks or longer) it is treated as were the original outgrowths.

Effects.—The immediate visible effects are very striking. No spark is seen if the electrode is placed properly among the villi. A spark may be seen if the surface is flat and prevents the electrode from burying itself. While the current is on, gas[3] is freely generated and bubbles out of the growth. If the point of application is superficial, one can readily see blanching of the tissues about the point of application, and at the spot where the electrode's point rested the tissues are blackened. As the electrode is withdrawn from the growth, very frequently it is found to be adherent to the villi, and as it is pulled upon, the whole tumor moves with the electrode which finally comes away with a small mass of tumor tissue baked to its tip. This is only rarely followed by bleeding, and a reapplication of the current at the same spot usually controls this.

After the patient has expelled the necrotic tumor the base may require further brief applications to destroy any tumor residue as stated above. The patients should be carefully cystoscoped from time to time, and if any suspicious areas are visible they should be destroyed at the same sitting. In this way we can hope to obtain excellent and permanent results.

No method which is so destructive of tumor tissue can be absolutely free from danger. The patient that died some four days after treatment may have died of an embolus, and this possibly, I suppose, should be borne in mind, irrespective of whether death in this particular case was due to this cause or not. This is, however, a remote danger judging from all experiences with this method up to date.

Another danger that one can imagine is severe burning or perhaps perforation of the bladder wall. With care this should be avoided. As one is working under the guidance of the eye, one ought to know exactly where the electrode is situated before turning on the current and by adhering to this fundamental point no such damage should be inflicted.

History of the Method and Nomenclature.—In the early part of 1909, after purchasing in Vienna the intravesical set of operating instruments made by Victor Blum, for use through the ordinary Nitze catheterizing cystoscope, my thoughts were turned to procuring an intravesical cautery that could be used in the same manner as the Blum instruments. In Vienna I could find no such cautery, and on my return to America I decided to look into the question of using high-frequency current for this purpose, having previously had some experience with its cauterizing effects on skin warts. I immediately took the matter up with the Wappler firm, where I had bought my high-frequency apparatus, and was thoroughly disappointed when Mr. R. Wappler, the electrical expert of that firm, told me I could not use these currents as I wished, because, first of all, an air gap between the tumor and the electrode was essential, and, second, the current would burn out my cystoscopes. Others, whom I consulted, members of the profession who had more experience with these currents in dermatological conditions, told me that Mr. Wappler's views as to the necessity of having an air gap were absolutely correct. Despite this information I ordered through the Wappler firm a very thoroughly insulated copper (6-ply) electrode so that I might experiment with these currents and test the validity of these expert views. I wasted some time in trying to fit the end of the electrode with a cup-shaped depression which would retain a small amount of air even under water and thus give me a small air gap. In treating warts

under water I quickly found that no such gap was essential and that the warts could be readily removed by direct application of the electrode and current to the warts. I then tested my cystoscopes (Nitze type catheterizing Loewenstein make) and found that they carried the current without in any way interfering with the illumination. I then treated skin warts through the cystoscope under water and obtained most satisfactory results. I was then ready to employ the method in bladder tumors as originally conceived.

In the meanwhile the over-zealousness and enthusiasm of a member of the firm, through which I obtained my original copper electrode, allowed him to unbosom the method to a number of colleagues in New York City. To how many he spoke I do not know. Several gentlemen informed me of this fact, which led me to make my preliminary report in May, 1910, whereas it had always been my intention not to write this subject up until I had observed the cases for at least six months after the disappearance of the growths. Fortunately the technic and the results mentioned in my preliminary report, based as they were on experimental work and clinical observations, were perfectly satisfactory, and subsequent experience has not led me to make any changes, so that in this more extensive paper I have nothing to retract from my original statements.

In proposing a new method of treatment it is always well to call it by some short name. As yet I have not been able to think of any name which properly characterizes this method of treatment, as the title of this paper shows. The high-frequency current of Oudin is used, applied through a copper (heavily insulated) electrode under water, and to express all of that in one word seems more difficult than to cure a case by this method. Others (Keyes, Buerger, McCarthy) have spoken of the method as fulguration, to which I have repeatedly taken exception as the method is not the same as fulguration (de Keating-Hart, Pozzi). By fulguration is meant the method of using high-frequency currents as suggested by de Keating-Hart, "sideration" being the name originally employed by this experimenter Pozzi suggested that it be called fulguration from the resemblance of the long spark to lightning. As de Keating-Hart says:[1] "Let it suffice to recall that this method consists in an electrosurgical operation divided into two stages. The first stage consists of the operative removal of the tumor practiced if not extensively (when that is impossible) at least to the limit of the apparent boundaries of the disease, and including therein metastases and infected glands. Then, in the second stage, long and powerful sparklings of great frequency and high tension are applied to the wound thus made." Another striking difference is evident when we contemplate the effects of the current used as indicated above intravesically through water, and compare them with de Keating-Hart's observations. He says,[2] "This method (fulguration) seems to act, not on the neoplasm, but on the soil in which it grows." "Mice cancers, when fulgurated, then removed, and reimplanted in healthy mice, developed afresh, under conditions identical with those of grafts that had not been exposed to the spark; the neoplastic cell (not destroyed directly by the electric discharge) was then in no way attacked by it as regarded its viability." On the other hand, in the intravesical method described in this paper, the growth is directly destroyed.

I believe these citations ought to make clear that the method here advanced should not be called fulguration. If the method is properly used one seldom sees sparking, and as fulguration refers definitey to the long lightning-like sparks employed in the manner described above by de Keating-Hart, and is an excellent descriptive term for a fixed procedure, it would be confusing to apply that term to the therapeutic method that I am here describing, and to call this new method of attacking intravesical neoplasms fulguration.

The current of Oudin has been used for some fifteen years in removing surface growths, and the only novel feature of my method is the use of these currents under water and in the urinary bladder. The resemblance that it bears to the treatment of surface neoplasms is much greater than that which it bears to de Keating-Hart's technic, and it is my belief that for all these reasons it should not be confounded with the very recent development known technically as fulguration.

Therapy Used at Present in Bladder Tumors, Benign and Malign.—In this field during recent years there has been great discord, almost all surgeons favoring the transvesical route, a few pleading for the transperitoneal. Only two or three came out warmly for the transurethral route and the operating cystoscope. Of late a new school has come to the fore, saying "Hands off!" (Posner.)

If we are face to face with a *malignant neoplasm*, there can be no question as to what procedure should be adopted. The transperitoneal operation recently strongly recommended by Dr. C. Mayo alone promises any result. If this cannot be done, owing to the patient's general condition, palliation and not a cure is the best that can be expected unless the tumor is very small. Under such conditions the Oudin current may produce a cure.

When, however we come to the papillary growths, which probably are benign in the great majority of cases despite the fact that Rokitansky named them carcinomata villosa and despite the teaching of the Guyon school which considers them malignant because they recur so regularly

after attempted transvesical excision, then we enter a much debated field. Nitze has shown that he can obtain much better results with the operating cystoscope than anybody has obtained by transvesical suprapubic operation, and he and Sonnenburg[3] only recently declared that after such transvesical procedures recurrence is the rule. Cathelin in a recent paper admits at least 50 per cent. recurrences after the suprapubic operation.[4] He sides with Nitze and the operating cystoscope. Whether the results by the transperitoneal route will approach those obtained by Nitze we cannot state as yet. Even if they should be vastly superior to those obtained by the suprapubic transvesical route, and just why they should be it is difficult to figure out, it must be evident that the danger of this operation is much greater than that of the Nitze procedure, and that the transurethral route is and will be the more ideal in every way. The only obstacle to the wide introduction of this technic has been the great difficulty of manipulating the rather complicated armamentarium and the very frequent sittings that some cases require as well as the occasional post-operative severe hemorrhages.

If, then, as it appears at present, the transurethral route gives the best results and is the least risky so far as immediate outcome is concerned, it is evident that the new method advocated in this paper must measure up with the method of Nitze and the operating cystoscope.

It is too early to say that the method used in the cases reported will give results as good as those reported by Nitze. It must, however, be evident that the technic here described is much simpler than that employed by Nitze, and it would appear from all the experiences gathered up to date that it will rival Nitze's method when end results are compared. The great simplicity of this new method, the rapidity with which large growths are destroyed, the ease with which any trained cystoscopist can carry out the necessary manipulations, all suggest to me that it is the method of the future in the treatment of benign growths in the urinary bladder.

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Discussion.

Dr. Leroy Broun, New York City: I think Dr. Beer is to be congratulated on the presentation of this treatment of papillomatous growths of the bladder. I do not know of any more unsatisfactory treatment than surgical for such a condition. With reference to the treatment of these conditions by electricity, it is remarkable how tolerant the bladder is after such methods. I feel personally, however, that the matter should be left to or referred to men who are accustomed to treating such conditions by electricity on account of the damage that can be done by the inexperienced.

Dr. V. C. Pedersen, New York City: It would seem that the method that has been described by the essayist has a number of advantages. It is definite, it is direct, and under the eye.

There is one point about the conclusions of the writer that has occurred to me, namely, we should not depart from the traditional opinion of surgeons, for the reason that we cannot consider a tumor anywhere in the body as cured in so short a time as one year and a half or a fraction thereof. So good an authority as Dr. Bangs, of New York, remarked to me not long ago that in his long and extensive experience most bladder growths were malignant, or became so if they had time enough. If a patient did not die of some intercurrent disease, the papilloma of the bladder would ultimately turn out to be of cancerous character. While this is a most valuable and very instructive contribution to our knowledge, it seems to me, we are hardly warranted in speaking of these cases as cured until three to five years have passed after the application of this method of treatment.

I would like to ask Dr. Beer what precautions were taken in removing pieces of the tumor before operation to get a thorough pathological report upon them. He mentioned that point, but it was not quite clear to me.

Dr. W. Gaertner, Buffalo: I wish to second what Dr. Beer has said about the efficiency of removing papillomatous growths from the bladder by the method he has described, and after hearing Dr. Beer's reports at a previous meeting, I procured the instrument the first of January, and since that time have treated five cases. Two of these are still under treatment. The other three are apparently well, although it is too early to say that a cure has been effected. At any rate, there are no signs of recurrence at the present time in these three cases. Two of these patients were over seventy years of age, and had a cardiac condition which made it impossible to give a general anesthetic. They were having considerable hemorrhage from the bladder, so that it was necessary to remove the growth in as short a time as possible, and stop the hemorrhage. After the first treatment I removed the tumor completely, three or four treatments being required, with so much more satisfaction than by using any method I had tried heretofore, and I think the future holds out a great deal of promise for this particular method of treatment. As Dr. Beer has said, we cannot say very much as to the ultimate cure until sufficient time has elapsed, but the early results are so much more satisfactory than other operative treatment, that I cannot speak too highly of this particular method. In three cases on which I had operated during the previous year and in which the disease returned, after trying this

method of treatment I became enthusiastic, and I am very glad to have heard what Dr. Beer had to say to-day.

Dr. Willy Meyer, New York City: Everybody who is interested in doing surgery will follow this paper of Dr. Beer with a great deal of interest. You all know that papilloma of the bladder is clinically a malignant tumor, inasmuch as it has a great tendency to return within the bladder. We also know that after we have opened the bladder through a suprapubic incision once, it is difficult to reopen it to remove secondary tumors, and therefore the position taken by Nitsche, mentioned by Dr. Beer, was a good one, and he constructed an operating cystoscope in order to deal with these cases, which was also worked out by Casper of Berlin, and then it was heralded with enthusiasm by those who were interested in this particular branch of surgery. But these instruments are complicated and expensive, and sometimes they refuse to work at the proper moment. Therefore, it is certainly quite an advance to treat these tumors with the method brought out by Dr. Beer to the effect that we must treat these cases by a number of seances as long as we are able to destroy the projecting tumor at its base. All these tumors are malignant at the base, and there is the great point. It would certainly be important to follow up these cancerous tumors and see whether they can be attacked also by this method of treatment. We know that there is hardly any carcinoma in the system that has such a great tendency to recur, as cancer of the bladder. Therefore, all surgeons have been rather adverse to operating on advanced cases. We know that Nitsche operated on cases of cancer of the bladder, and that he had good results, especially primary results, but only recently I heard from a colleague who had been abroad that almost every case of cancer of the bladder that Nitsche had operated upon with his operating cystoscope has recurred. It will be interesting to know whether Dr. Beer's method will be useful for this class of cases. If so, the advance is still greater.

Dr. Beer (closing): In answer to Dr. Pedersen, I would say that every case I treated had been examined microscopically, and a diagnosis of benign papilloma was made. Whether these tumors are really benign or not is still a mooted question. Clinically, as Dr. Meyer thinks, they behave as carcinoma. The tendency to consider them microscopically carcinomatous is very strong in Germany. At the last Urological Congress most of the men spoke of their cases as being malignant papilloma. It does seem strange that in New York city since this method has been introduced some thirty-eight cases of tumors of the bladder have been subjected to this treatment. If carcinomatous, they would not respond to the treatment, and the tumors would doubtless recur afterwards.

As to the question of recurrence, which Dr. Pedersen brought out, a cystoscopic examination of the bladder at an interval of eight weeks will demonstrate whether there is any recurrence in the base or not. I have been able to detect changes in the base that were suspicious two weeks after primary cystoscopy, where I suspected there might be a tumor in the base, and within two weeks there was a papillary growth in the base If you watch a patient religiously for twelve months, cystoscope him every two months, and if there is no sign of recurrence, I think we can consider that patient as cured of the tumor. If the patient should get another tumor of the bladder due to the primary growth, that is another question.

EXPERIENCE OF THE ARMY WITH VACCINATION AS A PROPHYLACTIC AGAINST SMALLPOX.*

By JOHN VAN RENSSELAER HOFF, A.M., M.D., LL.D.,

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SMALLPOX, or variola, is an intensely infectious and fatal eruptive disease, presumably of parasitic origin, which in times past devastated even the most enlightened nations and threatened the existence of the human race.

To-day this disease has practically ceased to manifest itself harmfully among well governed people, and is far more easily controlled than typhoid fever and other common affections.

How? By vaccination.

Vaccination is defined as inoculation with vaccine or the virus of cowpox; it consists in the introduction upon an abraded surface of the skin, usually of the upper arm, of a minute quantity of vaccine, which, if successfully done, causes vaccinia, a harmless affection, which immunizes against smallpox.

I need not trouble you with a detailed history of this beneficent discovery announced by Jenner in 1796. This, as well as the fact that the remedy was brought to this country by Dr. Waterhouse, of Boston, in 1800, is well known to you.

You will recall that vaccination was presented to the particular attention of our countrymen by Thomas Jefferson, then President of the United States, who wrote Jenner that he had "erased from the calendar of human afflictions one of its greatest." Moreover, the fact must be deeply impressed upon your minds that with the extension of the practice of vaccination throughout the civilized world, smallpox ceased its ravages among enlightened people.

What were these ravages?

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* Read at a meeting of the Medical Society State of New York, at Albany, April 18, 1911.

Not a decade passed in the 17th and 18th centuries without the occurrence of devastating epidemics of smallpox in Europe. In England, from 7 to 9 per cent. of all deaths were attributed to smallpox and it ranked next after tuberculosis in destructiveness.

In Berlin, one-twelfth of all deaths were from smallpox; in France, 30,000 died annually from this cause.

In 1721, Boston, Mass., with a population of about 11,000, had 5,989 cases of smallpox with 850 deaths. In 1730 there were 4,000 cases and 509 deaths. Everywhere the same story.

Previous to Jenner's discovery smallpox, like tuberculosis then and to-day, was endemic in all countries, and had a mortality of 10 per cent.; it never was wholly absent and periodically became a great epidemic, when its death toll reached 50 per cent. "Countless mortals who escaped death were maimed for life. Of newborn children one-third died of smallpox before their first year and one-half before the fifth year. There was no family which had not heavy losses to deplore" and no place which escaped.

There was then no adequate means of prevention, no remedy and mankind seemed doomed to annihilation by this terrible scourge. The fact that the inoculation of the material from the smallpox pustule itself produced a milder attack of the disease and thereafter immunity from it, was known and practiced before the discovery of the immunizing power of the cowpox, but the practice only served to propagate and disseminate the disease and ceased to be used shortly after the introduction and practice of vaccination.

Following vaccination, child mortality from smallpox stopped and among adults, wherever efficient vaccination obtains, the name variola no longer cuts any figure in mortality tables.

In twenty-two nations where vital statistics were then kept, the annual mortality from smallpox of 2,800 per million in the 18th century was reduced in the 19th to 280, after the introduction of vaccination.

But the toll demanded by variola from the enlightened of the earth is ancient history, and some there are to-day who think that vaccination, which abolish it, is a fetish, a possibly valuable remedy once but of no value now; that smallpox has run out and that compulsory vaccination against a hypothetical disease is an infringement upon the rights of the individual and of no value to the community.

How far this is from the truth is easily demonstrated by the current activity of the disease among the unvaccinated.

Twenty years ago 25,000 people died in one year of smallpox in Guatemala; there was no compulsory vaccination there; it was the paradise of anti-vaccinationists. Recently the disease became so rife that the authorities vaccinated the people *en bloc,* since which smallpox has ceased to manifest itself in that country.

In the *Medical Record* of February 25, 1911, one reads:

"Recent reports indicate that in Panama, Honduras and Costa Rica, where vaccination is compulsory, smallpox is conspicuous by its absence and when an occasional case occurs it is of a mild type. On the other hand, in Chili, in which vaccination is not compulsory, and in San Salvador, where the law of compulsory vaccination has not been enforced, the disease has been very prevalent and fatal. During the last year, there were in one infectious disease hospital, that of San José, Chile, 3,800 cases, with 3,071 deaths."

It is, however, not necessary for us to seek confirmation of the continued existence of smallpox, or of the dangers to the unvaccinated, from this disease, through the experience of other peoples.

Driven by fate we, as a nation, have ventured without our shores and, in recent years, accumulated our full share of the white man's burden.

It was my fortune, in the autumn of 1898, to be assigned to duty as Chief Surgeon of the Department of Porto Rico. Smallpox was epidemic, neighboring countries were quarantining against the island, and the success of our first effort in military government was hanging in the balance.

This disease had never been absent from Porto Rico during the Spanish régime. The average number of deaths per annum for the ten years previous to our occupation was 621, the greatest number 2,362, occurring in 1890 and the least 11, in 1893. The Spaniards had vaccination laws, but they were usually more honored in the breach than the observance.

The situation was grave and there was but one thing to do, vaccinate the entire population, a million people.

The vaccine virus sent from home to vaccinate the troops was inert, due doubtless to high temperature and other factors, and the problem to solve was not alone to immunize the people but to produce the immunizing agent as well.

We organized a vaccine farm, produced the virus and in three months performed 860,000 vaccinations. In 1899, 242 deaths from smallpox were reported, all of which occurred before the conclusion of the anti-smallpox campaign. After that, none for several years.

I shall not dwell upon the details of this work, the first big sanitary undertaking of our government in the tropics. It loomed large then, but since has been overshadowed by so many greater things that there would be no occasion to mention it except to illustrate the benefits of vaccination.

But primary vaccination alone does not always confer immunity to smallpox, even though it modifies the severity of the disease, and the protection conferred diminishes gradually during the succeeding years until about the seventh when it usually ceases.

Revaccination is the necessary complement of

vaccination and must be practiced if the immunity to smallpox is to be maintained.

Of this the Governor of Porto Rico reported in 1907, as follows: "Prior to American occupation the greatest scourge of the Island was smallpox. Under the military government there was a general vaccination, and since that time there have been no deaths on the Island from this disease. This, however, was seven years ago, and I fear that the effect of the vaccination is wearing off, as during the past year there have been little outbreaks of varioloid, in mild form, in some municipalities. It is therefore time that another general vaccination was held."

In Cuba, our experience was almost identical. In Havana variola was likewise always present, 3,123 deaths being caused by it during the eight years immediately preceding our occupation; in the whole island, the average annual death rate for thirty years being two per thousand. In 1899 there was a general vaccination of the population and but three deaths from smallpox occurred during the seven succeeding years, two of which were in imported cases.

In the outlying provinces, smallpox raged early in 1899; hundreds of cases were collected into isolation hospitals and general vaccination instituted, with the result that the disease disappeared.

It is interesting to note that not a single case of smallpox occurred in the carefully vaccinated regiment of U. S. troops which furnished the guards for these lazarettos.

Our experience with smallpox in the Philippines has been, and continues to be, interesting. It is no small problem to sanitate eight millions of semi-civilized and savage people, inhabitating scores of islands with the aggregate area of a continent.

A very recent report on vaccination in the Philippines states that smallpox does exist there among those who escape or avoid vaccination, but the vaccinated remain immune even though thrown into contact with the infection.

This report, made by Dr. Olsen, Public Health and Marine Hospital Service, is based on the reports of the Director of Health, Philippine Islands, and is most interesting and convincing as to the value of successful vaccination in protecting against smallpox. He says that the consensus of opinion of the district physicians in the Philippines is that the value of the procedure cannot be controverted, and "No successfully vaccinated person need fear contact with the most malignant cases of smallpox."

Dr. Olsen lays stress upon the well known fact that while vaccination immunizes, the duration of the immunity cannot be determined and, as previously stated, periodic revaccination is desirable. We know that even an attack of smallpox is not a guarantee against a subsequent attack. I have seen successful vaccination in subjects deeply pitted by variola, and some people are so sensitive to the infection that they take the disease every time they come in contact with it. But these are the exceptions to the rule that an attack of smallpox, or successful vaccination and revaccination, immunizes against this disease.

In San Lazaro Hospital (for infectious diseases), Manila, the rule of yearly revaccination obtains with perfect record of immunity, except in one case. An American nurse contracted smallpox while on duty in the contagious wards. Upon investigation, she admitted having intentionally nullified her vaccination by washing off the virus with alcohol.

Great care is taken in preparing the vaccine in the government laboratories there to avoid any possibility of contamination, while the operation of vaccination is done under modern surgical standards at public cost, an American physician who has supervised the performance of over a million vaccinations on natives, states he never saw a bad arm. That bad arms do sometimes result is not to be denied but such are almost always chargeable to the vaccinatees rather than to the vaccine or vaccinator.

Vaccination is voluntary in the archipelago and there are anti-vaccinationists there as well as elsewhere. In a certain town in Cebu the belief prevailed that the virus was poison and would surely kill. Upon inquiry it was found that the conviction was based upon the fact that the vaccine was put up in yellow colored bottles instead of white, as formerly.

The opposition in one province caused the withdrawal of vaccinators, with a resulting considerable increase of smallpox. The thinking people of the community, struck by the fact that the vaccinated escaped the disease, soon petitioned the authorities to continue vaccinating.

Nine million vaccinations have been done in the Philippines since we went there. Of these, probably not more than half were successful. So it is reasonable to assume that about half the population of the archipelago are now immune to smallpox. Let us consider the results of the campaign.

Shortly before the American occupation, an epidemic of smallpox occurred in Manila which destroyed the people at the rate of 400 per week. Only once since our arrival, when a policy of persistent and efficient vaccination was instituted, has the number of deaths, annually, from smallpox exceeded thirty, and no death from this cause has occurred there since June 15, 1909.

The same result has followed vaccination elsewhere in the archipelago. In 1906 systematic vaccination was carried out in Pampanga. Before that deaths from smallpox numbered about 450 annually. There has been no death there from this cause since 1908. In Cebu, previous to 1905, the annual deaths from smallpox numbered between three and four thousand, which were reduced after vaccination to eighty-four deaths in 1908.

The provinces near Manila formerly paid toll to lack of vaccination to the mount of 6,000 lives annually. Since systematic vaccination in 1907, not a death from this cause was reported.

From all sides come evidences of the efficiency of vaccination in preventing the ravages of smallpox, not only in the destruction of life, but in the terrible disfigurement of its victims.

Dr. Olsen, in concluding his interesting and informing report, writes: "One cannot but be impressed with the prodigious difference between an insignificant scar on the arm, all that vaccination leaves, and the suffering, disfigurement and deaths which follow smallpox."

It is to be regretted that smallpox continues to cut any figure in the mortality statistics of our own country. But, unfortunately and unnecessarily, it does.

In 1899 there were 11,136 cases reported, with 553 deaths; in 1900, 20,362 cases, with 819 deaths, and in 1901, 64,630 cases, with 1,640 deaths. The death rate per hundred thousand, 1901-5 was 3.4; in 1904 it was 2.1; 1905, 0.9; 1906, 0.2; 1907, the same. In 1908, 35,174 cases were reported in the registration area, about half the continental area, with 76 deaths; in 1909, 21,021 cases, with 94 deaths, and in 1910, 27,176 cases, with 384 deaths. To March 10th of the current year, 5,818 cases were reported, of which 30 died. There were but 89 cases in New York State, with 3 deaths in 1910.

By reference to the subjoined table,* it will be observed that the only countries showing death rates from smallpox greater than that of the United States, registered area, for the quinquennial period, 1901-5, were Spain, Belgium and Italy. Since then, the only country with continuing high death rate is Spain.

This is current history, not that of the 18th century, and it certainly does not indicate that smallpox is intrinsically any less potent for evil than it was before Jenner demonstrated his beneficent discovery.

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* The following table, taken from the United States Census reports, gives the death rate of smallpox, per 100,000 of population in the countries and for the years mentioned:

Country	Average 1901-5	1904	1905	1906	1907
United States	3.4	2.1	0.9	0.2	0.2
Austria	0.1	0.1	0.1	...	...
Belgium	9.9	9.3	3.4	0.6	...
Ceylon	1.3	0.1	2.9	1.8	0.7
Chili	...	...	261.9	...	...
Finland	1.9	1.3	0.6	1.0	...
German Empire	Less than one-tenth				
Hungary	2.3	2.2	2.3	1.1	0.7
Italy	9.4	9.3	1.4	0.5	1.3
Japan	0.1	0.3	0.1	...	...
Netherlands	0.2	0.2	0.2	0.1	0.1
Norway	0.1	...	0.3	...	...
Ontario	0.4	0.1	0.1	0.2	...
Roumania	0.1	0.3	...	...	...
Spain	22.3	14.9	14.2	22.4	16.6
Switzerland	0.5	0.1	1.0	0.4	...
United Kingdom	2.3	1.7	0.3	0.1	...

So much for variola *about* our army, let us consider it within the army.

According to modern standards the primary function of the sanitary department of an army is to put and keep the largest number of efficient rifles on the firing line.

This involves the exclusion from among the men who are to be behind the guns, of all physically unfit, at time of enlistment and the keeping of those enlisted in the best possible fighting trim, physically.

These desiderata are now axiomatic in armies, and no opportunity is lost to promote the health of soldiers, as a *sine qua non* to fighting efficiency.

As a logical result, sanitation, which had its beginning and development in armies, recently attained its greatest accomplishments at the hands of military sanitarians.

The growth of the sanitary art amongst the people is slow, and when nations have been indifferent to the matter its status in their armies has in past times fallen even below that in civil communities.

It might be supposed that the death rate among soldiers, presumably carefully selected men, would be considerably less than among civilians of the same age, the injuries to the industrial army being more than an offset to battle casualties. Formerly, before the true function of the sanitary department was recognized, this was not the case, the "expectancy" of the civilian being twice that of the soldier. But during the last third of the 19th century, with occasional exceptions, there was a notable change in this direction, *e. g.*, the death rate in Prussia being 3 per thousand (1.8 in 1907) for the soldier to 6 for the civilian; in France, 8 (4 in 1907) to 11; with us it is now 4.84 for the army to 7 per thousand for the civilian population.

There are numerous reasons for this marked decrease of military mortality, among them being the more careful selection of the recruit, a better knowledge of the scientific care of troops, and the consequent generally improved condition of the soldier's manner of life in peace; the lessened mortality of the battle-field since the introduction of arms of precision, etc. In all of these advances, the United States Army has participated; and it is believed that a careful study and comparison of military statistics of different armies will demonstrate that we are reaching towards the best military hygienic standards.

I wish to remark here that the standards of our army, in any direction, cannot be much higher than the standards of the people, from whence it springs, but that we do demand and maintain a higher health standard in the regular army cannot be gainsaid.

Why is the standard higher? Because the military authorities accept and practice the means of protecting the health of our soldiers which experience has taught are effective. Moreover, while receptive to advances in preventive medicine, they are, withal, conservative and do not

subject their valuable fighting material to unwarranted experiment, either by commission or omission.

Hence it was that after its discovery, a generation passed before vaccination was made compulsory in armies. A generation in which the immunizing power of vaccination was conclusively proven.

Since then, the experience of nearly a hundred years with this remedy has taught the value of vaccination and revaccination in promoting the physical efficiency of soldiers, and certainly no army would now forgo this effective means of excluding from its ranks so devastating a disease as smallpox. With efficient virus at his command no medical officer to-day has any dread of an infection formerly the opprobrium of the profession.

The United States Army regulations of 1834 contained the following: "It will also be the duty of the examining surgeon to ascertain whether the recruit has had the variolous or vaccine affection; and, if not, to see that he be vaccinated immediately after enlistment, or as soon thereafter as practicable."

Following this, vaccination and revaccination have always been practiced, and to-day every applicant for enlistment must be vaccinated immediately after acceptance. Then, when he reaches his first post, he is examined, and if there is not unmistakeable evidence that the vaccination was successful, the operation must immediately be performed again. Whenever detailed for over-sea service, the operation is repeated; so that our army generally is immune to smallpox. We must not forget, however, that the immunity is not absolute and that a negligible percentage is susceptible to infection.

But whenever we have had occasion to mobilize volunteers, smallpox has always found its way into the army, because our civil population has not been thoroughly protected by vaccination and revaccination.

Of course, before the discovery of the preventive power of cowpox, variola prevailed generally in armies, as it did among civilians, and campaigns have come to naught because of it. Our expedition against Canada, during the war of the Revolution, failed, because of the prevalence of smallpox among the troops. Nearly 20,000 cases were reported during the Civil War in our army of about two million and a half, of which one-third died. The Confederate Army of Northern Virginia alone, in a little more than a year had 2,513 cases, of which 1,020 died. On the other hand, the German Army, in the Franco-Prussian War, over a million strong, lost but 278 from this disease. This nation is proverbial for the strictness of its present compulsory vaccination law and the thoroughness with which the operation is done.

The French learned their lesson with 23,000 deaths from smallpox during that war, and since have instituted a vigorous system of vaccination, which has resulted in practically eliminating smallpox, the deaths in 1907 being at the rate of 3 in a hundred thousand.

Kitasato remarks of the Japanese army, "Our army engaged in both wars in Corea and Manchuria, where smallpox is endemic, and therefore, the soldiers were constantly exposed to the danger of contamination, the more so when the unhealthy way of living which is a necessary concomitant of war is taken into account. However, the Japanese authorities took care to have every soldier who went to the seat of war vaccinated, and the happy result was that in an army consisting of not less than a million of men, the following small number of cases of smallpox appeared: Chino-Jap war, 155 cases, 34 deaths; Russo-Jap war, 362 cases, 35 deaths. As the total number of men engaged in both wars is not yet made known the rate of contamination and the death rate cannot be accurately stated; however, we get from these approximative figures some notion as to the paucity of the cases. The results are equal to, if not better than those of the Prussian army during the war of 1870."

In summing up this informing article on vaccination in Japan, Kitasato concludes, "The anti-vaccinationists are like those who would deny the benefit of sunshine. It gives them every kind of joy and happiness and yet they are so familiar with it that they are not aware of its good. They would come to know the vast protective power of vaccination had they once experienced the terrible outbreaks of smallpox in their communities in which thousands on thousands fall victims, while the vaccinated ones go freely through the epidemic without the least danger of contagion."

The official vital statistics of the Russian army, to July 14, 1905, given me in Manchuria, October 2, 1905, by the Russian military authorities, included 209 cases of variola, of which 12 died. As the army numbered considerably over a million it goes without saying that its mortality from smallpox was negligible.

In our army, 1840 to 1859, there were 134 cases of variola, of which 15 died, the aggregate strength being 187,144. From 1885-97 there occurred but six cases. Then came the Spanish-American War, which necessitated the enlistment of large numbers of unprotected civilians upon whom vaccination and revaccination, if done at all, was ill done, with the result that the death rate from smallpox advanced rapidly.

Munson writes, "Among the volunteers who served in the Philippines in 1898, the admission rate for variola was 9.60 per thousand, twice that for the regulars, while the death rate for volunteers was 3.36 against 1 for regulars. The rate for the entire army, the strength of which approximated 275,000, was .67 per thousand.

The following table shows the movement of smallpox among our troops in the Philippines and China, 1898-1908.

Year	Number of Troops	Cases	Ratio of cases per thousand	Deaths	Ratio of deaths per thousand
1898	2908	76	7.67	21	2.12
1899	39280	267	6.80	78	1.99*
1900	66549	246	3.68	113	1.69
1901	59526	85	1.43	37	.62
1902	37768	63	1.67	12	.32
1903	23818	27	1.13	3	.13
1904	11996	4	.33	2	.17
1905	11057	3	.27	0	.00
1906	12622	3	.24	1	.09
1907	11712	1	.09	0	.00
1908	12136	2	.17	0	.00

From 1898 to 1902, the forces "included a number of volunteer regiments in which it was difficult to enforce a thorough vaccination." Moreover, at first it was almost impossible to obtain a potent virus, and this was not wholly overcome until vaccine farms were established in Cuba and the Philippines, as well as Porto Rico. Most of the regulars had been immunized by previous thorough vaccination and revaccination, and only the recruits were unprotected, because of impotent virus, while, on the other hand, many of the volunteers, never before vaccinated or certainly not revaccinated, though generally vaccinated after enlistment, were not thoroughly immunized.

In this connection it might be well to call attention to the fact that during the ten years above mentioned, vaccinia, sufficiently severe to require excuse from duty, prevailed at the rate of 37 per thousand. This disease, as you all know, is usually of little importance, has no relation to smallpox and its active symptoms disappear spontaneously in a few days, it is the direct result of successful vaccination.

It, however, goes without saying that the wounds of vaccination must be protected as must any other wound, or else they may, in like manner, become infected. Of vaccinia, Munson says: "As vaccination on the arm often renders it inconvenient for recruits to drill or perform hard labor for a few days, it is customary to excuse such men when there is present evidence of a special inflammatory action, from the performance of a part or the whole of their duty. A large proportion of such cases receive no special treatment and are carried upon sick report as being sick in quarters." But being on sick report, they are necessarily included in the vital statistics of our army.

The admission rate for vaccinia has always cut something of a figure in our military statistics, being, from 1886-95, nearly 34 per thousand, though the constant non-efficiency rate was but one. With the enrollment of volunteers in 1898 the rate increased somewhat, and altogether seven deaths were reported as due to septicemia.

This, though regrettable, is not too great a price to pay for the protection of our troops from smallpox, which before the discovery of vaccination had decimated armies, but such was unnecessary had proper technique in the operation and after treatment been observed. The title "vaccinia" does not appear in international vital statistics of armies.

I am impressed with the idea that the operation of vaccination is generally ill done in our country, and I regret to confess that it is not up to the highest standard in our service, certainly so if the requirements of the German regulations are regarded as necessary. We of the army make up for our shortcomings in primary vaccination by repeated revaccination, but I fear that this is not so generally practiced among our civilians.

It is not to be denied "that among vaccinated persons infected with smallpox the danger of the disease is chiefly determined by the character or quality of the vaccination." The fatality from smallpox among the properly vaccinated is but 5 in a thousand cases of the disease, whereas in the ill-vaccinated it is often 30 times greater.

The hurry and turmoil of mobilization, the lack of proper facilities, the impotence of the virus, the unskillfulness of unaccustomed operators, the carelessness of the subject, all add to the difficulties of an operation which should be done under strict asceptic precautions, both as to surface, instruments and operators, and the wounds should be protected against subsequent infection.

The technique of this operation is not negligible, though in active service sometimes neglected, nor do we always remember that in all primary vaccinations at least three separate insertions of virus should be made, to obtain a total area of vesiculation of not less than one-half square inch. Moreover, if the first attempt is unsuccessful it should be repeated at short intervals until success follows, or there is reasonable certainty that the subject is immune.

Secondary vaccinations may not demand multiple insertions, which is our excuse for not making them, as army vaccinations are of adults whom, it is presumed, have been vaccinated in infancy, an assumption not always justified by the facts. It is therefore safer to make three insertions.

All our wars have taught us that the mobilization of our military resources, the able-bodied citizens between the ages of 18 and 45 years, promotes the incurrence of smallpox in our armies, and all our experience has shown that efficient vaccination and revaccination absolutely control it.

We of the medical department, as promoters of the fighting efficiency of the troops, would be loath to return to conditions under which one-

* In January, 1899, at Camp Columbia, near Havana, Cuba, the men of the One Hundred Sixty-first, Indiana, erected a monument of coral rock and concrete to the memory of six of their comrades who died from smallpox. The Second Illinois, brigaded with them, and next in the line, erected a similar monument a little larger, a little higher, and with a little more ornamentation. When the Colonel of the One Hundred and Sixty-first asked the Colonel of the Second the reason for this work, he added, "We erected our monument in honor of our six men who died from smallpox." The other Colonel replied, "And we erected ours because we had no smallpox."

tenth of mankind died of smallpox, conditions which immobilized armies and which obtained up to the beginning of the nineteenth century. These conditions ceased then with the application of Jenner's beneficent discovery and, since, have been effectually controlled by one thing, vaccination.

In spite of all these facts, somebody has asked, "Does vaccination really grant immunity from, or lessen the severity of, smallpox?" Rather, is not the gradual disappearance of this infection due to isolation and sanitation?

The answer is obvious.

Of isolation Chapin writes, "Smallpox is less likely to escape detection than is any other disease. Yet epidemics grow in the face of the most rigid isolation. Unrecognized cases, even in this disease, are so numerous that the isolation of the recognized cases often seems to be a complete failure. The State Board of Health of Minnesota realizing this, has had the boldness to advise that no attempt be made to isolate and that entire reliance be placed on vaccination. It was hoped that this would lead to more complete vaccination. There has been no alarming increase in smallpox in Minnesota."

A century and more ago, tuberculosis and smallpox shared almost equally the unenviable reputation of being the most potent causes of mortality in the human race. To-day tuberculosis maintains its evil reputation, but, among enlightened people, the mortality from smallpox is negligible.

Sanitary standards and practice have measurably advanced since 1797, but they have not yet greatly changed the mortality rate for tuberculosis, why should they have so marvelously affected that for smallpox?

They have not, and we are forced to the conclusion that to vaccination and revaccination alone are we indebted for our power to control this formerly devastating and deadly infection. "The great blessings of vaccination are not bought for nothing, still they are bought at a very trifling cost."

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DIAGNOSIS AND TREATMENT OF SOME OF THE MORE COMMON TROPICAL INFECTIONS.*

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IT seems a far cry indeed from the parasitic infections of the tropics to the practice of medicine in one of the most northern of our states, and at first thought a few moments spent upon some diagnostic features of these infections would seem superfluous. Yet here in New York two infections, malarial fever and amœbic dysentery, which are the bane of the tropics, are acquired by individuals who have never been outside of the borders of the state. All who are familiar with the clinics of the hospitals in New York City are aware of the frequency with which cases appear of chronic malarial infection, which has been contracted within the state, and the list of amœbic infections arising in individuals who have never left the state is a longer one each year. A long list of imported tropical infections come to us from our insular and other tropical possessions. Puerto Rico, Panama, the Philippines, and also from the West Indian and South American trade routes. Most important of all, the fact is just being recognized that a great many of the so-called tropical infections exist in endemic form in the Southern states, and from this district, also, a clinic of tropical medicine in New York will derive material. From within the borders of the state, then, and from individuals returning to the state along the various trade and travel routes a clinic might be gathered which would comprise nearly all of tropical medicine. As the laboratory is called upon for a diagnosis of the majority of these infections the following brief résumé of diagnostic methods will consist largely of laboratory methods:

Leprosy.—A positive diagnosis rests upon the demonstration of the bacillus, and the technique is very simple and easy of application. A small portion of one of the nodules is excised, this macerated with a little normal salt solution, and a few drops are spread on a glass slide. The preparation is then fixed and stained with the ordinary Zuhl-Nubilsen stain in the same manner as in staining for the tubercle bacillus. If no nodules can be found a scraping from a nasal ulcer, or some serum from a macular patch may be examined in the same way. Examination of the nodule is by far the most reliable method of the three. The lepra-bacillus, although acid-fast, is

* Read before the Medical Society of the State of New York, at Albany, April 18, 1911.

less so than the tubercle bacillus, and unless one gets rid of the acid used in decolorization by very thorough washing or by neutralization with dilute ammonia solution, the bacilli may lose their red stain within an hour or two. This is a point of considerable practical importance, when it is desired to keep a preparation for future demonstration.

Intestinal Infections. — Intestinal infections with the following parasites, arranged wrongly in the order of frequency of occurrence, may be seen in individuals who have acquired the infection elsewhere, or in the amœbic infections here in this state: Lamblia intestinalis, cercomonas intestinals, tuchomonas intestinalis, strongyloides intestinalis, balantidium coli, schistosomum japonicum and the amœbæ. Clinically they resemble one another in certain features. In all of them there may be dysenteric symptoms of varying degrees of severity with weakness and a mild anæmia. A general characteristic of them all is the fact that they resist treatment for such long periods, and recurrences take place after long intervals of freedom from any symptoms.

Lamblia Intestinalis.—This flagellated organism is a rather common intestinal parasite of man in warm countries and it is occasionally found in the stools of individuals who have always lived in the temperate zone. The same may be said of intestinal infections with the cercomonas and tuchomonas. Infection with these may give rise to no symptoms. In other cases there may be an occasional attack of diarrhea, or even an obstinate dysentery with considerable abdominal pain. In the heavy infections with dysenteric symptoms there is tenderness on pressure over the large bowel. The stool examination gives the diagnosis, as the actively motile organisms are very evident in a liquid stool. In examining a stool for any of these infections it is necessary to have a liquid stool. A hard or well-formed stool from an infected individual is usually negative, while the liquid stools following a saline cathartic show large numbers of the actively motile organism. A very good treatment for these infections is a daily irrigation with several pints of 1-3000 methylene blue solution with the administration of ½ to 1 gr. of methylene blue internally. In the chronic dysenteric types rest, carefully selected diet, combined with the methylene blue irrigations will nearly always give beneficial results.

Balantidium Coli.—This ciliated organism infects the large intestine of man frequently in warm climates and occasionally in the temperate zone. In a fluid stool they are very easily recognized as actively motile organisms very much larger than the monads. Infections with small numbers of bolantidia may cause no symptoms, but heavy infections may cause recurring attacks of diarrhea, or severe dysentery with death following from a secondary infection, or from exhaustion. The treatment is the same as the treatment for the monad infections.

Strongyloides Infection.—The strongyloides intestinalis is a cause of obstinate diarrhea and chronic dysentery in the tropics, and we have here an occasional case from the West Indies or from the Orient. The adult worm burrows into the mucosa of the small intestine, and the embryos (occasionally the ova at the time of the attack of diarrhea) appear in the stools. This infection may resist all treatment. High irrigations of 1-3000 methylene blue, or 1-2000 thymol sometimes aid in ridding the patient of his infection, but the treatment is often very unsatisfactory.

The Schistosomum Infection.—These are rarely seen here. One case of schistosomum hæmotobium infection, contracted in Africa, was seen through the courtesy of Dr. Burton Harris, of Brooklyn, N. Y. In this variety of schistosomosis the terminal spined ova are found in the urine, the adult worms living in the portal system. The ova are deposited in the bladder wall, giving rise to a low grade inflammation. The symptoms are usually those of a cystitis with occasional attacks of hæmaturia. In another variety of schistosomiasis a lateral-spined ova are deposited in the rectal wall and the symptoms are due to the low-grade inflammation of the rectal wall with subsequent formation of polypi or ulcerations. This type occasionally comes from the West Indies. Still another type of schistosomum infection the ova of which have no spines, is very rarely seen in individuals who have resided many years in the Orient. The ova of this type are deposited in the intestinal wall, and in the liver and spleen, and they appear in the fæces. There is no specific treatment for these infections.

Amœbic Infection.—There are two sources of amœbic dysentery in this state. (1) Cases arise in individuals who have never left the state and (2) those cases who have contracted the infection during a sojourn of long or short duration in the southern part of the United States or in the tropics. They originate here far more frequently than is usually supposed. The type which is most common in this climate and which usually remains undiagnosed for a long while, gives a history very similar to the following: Three years ago the patient left the Canal Zone, Panama, after a stay of two years. During his stay he had no dysenteric symptoms. His only illnesses were two attacks of malarial fever, one mild and the other severe. After returning to the States, for about one year his health was very good. Then he noticed that he was losing weight, and that his efficiency in his office work was becoming impaired. He tired easily, and in hot weather or after some dietetic indiscretion, he would have an attack of diarrhea lasting for a few days, after which he would become constipated. During the next year he consulted physicians a num-

ber of times, but the condition was not diagnosed until an examination of a fluid stool following a saline cathartic was made. This showed a number of motile amœbæ, and on palpating the abdomen there was considerable tenderness over the large bowel, particularly over the cæcum. This patient gained thirty pounds and became free from all symptoms after a course of treatment.

In these obscure cases a very common symptom is pain on pressure over the right iliac region. The cæcum is the most common site of ulceration in amœbic infection and pressure over this area will elicit pain. A differential diagnosis between an amœbic infection and a chronic appendicitis is very difficult to make unless a proper stool examination is made. When mistaken for appendicitis and operated upon the shock of the operation and anæsthetic combined may light up fatal attack of acute amœbic dysentery. Lack of time forbids taking up all the various methods of treatment of amœbic infection. One which is usually very satisfactory for this type of infection may be briefly outlined as follows: A daily irrigation of about two litres of warm normal salt solution is given per rectum with the patient lying on his right side with the hips elevated. If the salt solution is allowed to flow in slowly the two litres will be retained for about one-half hour by the majority of adults. It is astonishing how easily an amœbic ulcer high up in the rectum may be perforated by a rectal tube, and in passing the tube one should stop as soon as any pain is complained of. After several days' irrigation with normal salt solution, a 1-2000 quinine solution may be substituted. During the treatment the patient should eat light, easily digested food with plenty of milk, and should keep quiet. These irrigations should be continued for several weeks with the omission of a day every three or four days so that the patient may rest. The irrigations are usually quite depressing and an occasional day of rest with, perhaps, a drive to vary the monotony is very welcome. After about three weeks of this treatment the stools may be examined again. Amœbæ may not appear in the stools until a week or ten days after the last quinine irrigation. If they are present the treatment should be continued for another three weeks' period. After they are discontinued the gain in weight and the general improvement is astonishingly rapid. Recurrences are very apt to occur, however, particularly in hot weather, and it may be necessary to repeat the course of treatment every five or six months for a couple of years. Occasionally a chronic amœbic infection will not respond to this treatment and the general trend of the patient's condition from week to week is gradually downward. For this type of infection an appendicostomy or cæcostomy with daily irrigations of the large gut through the wound will usually stop the downward progress and effect a cure. The wound must be kept open, however, for a couple of years, and the irrigations continued at intervals during this time. After long intervals of freedom from any symptoms recurrence of amœbic infection may take place, and over-work, hot summer weather, or some dietetic indiscretion will light up an acute attack of dysentery.

Malarial Infection.—The most important practical difficulty in examining blood for malarial parasites is the lack of a good polychromic stain which is stable. The various modifications of the Romanowski stain which are on the market are unstable and good results are not obtained as a rule. In our laboratory we make our own polychromic stain according to the modification of Wright's method. After thorough drying the powdered stain is sealed up in 1,060 quantities in glass tubes. This, added to 20 cc. of absolute methyl alcohol which must be acetone free (Kahlbaum's), furnished a stable product which gives beautiful results. The sealed powdered stain will keep almost indefinitely in any climate, provided it is not exposed to direct sunlight, and by making it up in such a small quantity as 20 cc. one prevents the deterioration which a polychromic stain in solution undergoes after long standing. The writer has spreads of malarial blood over a year old in which the parasites stain with a differentiation between the chromatin and protoplasm. In fresh blood preparations parasites and red and white blood cells are beautifully stained. Our malarial infections here are mostly either single or double tertian infections. The parasite is very easily demonstrated in a blood examination, if the patient has not been taking quinine. In the tropical infections the task is much more difficult and a prolonged search is sometimes necessary before a single autumnal ring is demonstrated. In a recent case of tropical malaria contracted on the Amazon River it required an hour's search before the parasite was demonstrated. These patients have often been taking quinine on their own initiative and this increases the difficulties. However, in practically every case of malarial infection, whether or not quinine has been taken, the parasite may be found, provided the stain is reliable and the search a thorough one.

Conclusions:

1. New York furnishes a large number of cases of the tropical infections, two of the most important of which, malarial fever and amœbic dysentery, may be acquired in the state.

2. Diagnoses of the intestinal infections due to animal parasite may be easily made by examination of the fluid stool.

3. Blood examinations for malarial parasites may be readily made with a good polychrome stain which is stable.

LANTERN SLIDES.

1. Macular and tubercular leprosy.
2. Macular leprosy.
3. Stained bacilli, nodule.
4. (r.b.c. inclusions), (amœba with).
6. Amœba—pseudopod.
5. Amœba—motionless.
7. Amœba—pseudopod.
8. Amœba—pseudopod.
9. Amœba—pseudopod.
10. Amœba—pseudopod.
11. Amœba—pseudopod.
12. Amœba—pseudopod.

(Series of moving amœba. Photographs taken six sections apart.)

13. Amœbic ulcer.
14. Amœbæ in intestinal wall.
15. Amœba in intestinal wall.
16. Amœbæ in flake of mucus.
17. Strongyloides in stool.
18. Balantidium in stool.
19. Tertian parasite—amœboid.
20. Tertian parasite—amœboid.
21. Tertian parasite—amœboid.
22. Tertian parasite—presegmenting.
23. E. A. parasites.
24. E. A. parasites.
25. E. A. parasites.

THE ETIOLOGY AND TREATMENT OF CERTAIN FORMS OF PERIODICAL HEADACHES.*

By N. A. PASHAYAN, M.D.,
SCHENECTADY, N. Y.

IN frequency and prevalence headache occupies a foremost rank in the list of human ailments. In fact, there are few individuals who sometime or other do not make its acquaintance. As a single or concomittant symptom it is met with in a variety of conditions. We often find it associated with many acute febrile diseases, such as influenza, typhoid fever. In metabolic disorders such as gout, rheumatism, diabetes and gastro-hepatic atony it is a common complaint. Eye strain, diseases of the nasopharynx and accessory sinuses are notorious as reflex causes. In organic brain lesions such as meningitis, hydrocephalus, tumor and abscesses, headache is invariably present. Neurasthenics very frequently complain of headache and clavus hystericus has even assumed a distinct name for itself. Disturbances of circulation, from arteriosclerosis to organic heart lesions contribute their share to the etiology of this symptom.

Numerous as are the various factors that may give rise to headache we wish to refer only to certain types of it that are periodic in their nature, recur frequently and entail considerable suffering. The discovery of the coal-tar products has gone far in alleviating headaches temporarily, but unfortunately this class of cases obtain very little relief from these analgesics and shift from orangein powders to the latest brands of the acetanilid mixtures. So that any measures that can serve to lessen the frequency and severity of these attacks are worth our study.

First we may consider that type of headache that is usually associated with menses in women. It either precedes or follows the catamenia. The distinguishing features of this variety are that the headache starts at the base of the skull and spreads towards the occiput, involving the mastoids as well. There is often a steady or throbbing pain, in some instances reaching the intensity of an agony. The vessels of the neck are full and prominent, the eyes look suffused, while the hands and feet are cold. As a rule no nausea or vertigo are present. Instinctively the patients incline their heads backward and thereby seem to get some relief. In one case to our knowledge the severe headache, the retraction of the neck aroused the suspicion of meningitis in the attending physician. As soon as the flow is established the headache subsides and eventually disappears. Strange it is how some women regularly and unmistakably enter this cycle of their lives with an attack of headache and look upon it as a part of the program.

When we look for the pathology of this condition it is apparent that the immediate cause of the headache is cerebral congestion, especially involving the basal meninges. Why should a physiological function as menstruation cause cerebral congestion in some women is not clear but it appears that the victims of this particular disorder are women whose menstrual function is tardy, the flow is not established until a day or more elapses and then it is scanty. Could we divert the congestion of the brain to the pelvic viscera, deplete the first and engorge the latter, the attacks would be warded off. We have two remedies that alone or in combination are capable to bring about this result. Of these ergot is the most potent and cimicifuga comes next. As a vaso-contractor and circulatory equalizer ergot is the best agent we have at our disposal. Its well known tonic and stimulating effect upon the uterus makes it doubly valuable. Cimicifuga acts as a true emmenogogue and on all kinds of utero-ovarian diseases it has a sedative and selective influence. To secure the beneficent effect of these remedies they should be given about a week before the expected period and continued until its termination. Where the headache has the tendency to follow the menses the treatment should begin with the onset of the flow and kept up until the habitual time of the attack is past gone. Often the addition of some bromid seems to enhance the value of the mixture, as the majority of these women are more or less of neurasthenic type.

To avoid any misunderstanding it is well to recall that women about the time of menstruation are subject to other kinds of pain in the head that are not congestive and should be differentiated. Subjects of migraine are particularly liable to have an attack about this time.

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* Read at the annual meeting of the Washington County Medical Society at Hudson Falls, N. Y., on May 17, 1910. Also before the Medical Society of the County of Schenectady on February 14, 1911.

The same holds true for trifacial and cervico-occipital neuralgias. In these cases, especially the latter group the treatment above outlined seem to have slight influence in aborting the attacks. Butyl chloral hydrate combined with cannabis indica seem to be the analagesics of choice in treating the neuralgias.

Another group might be conveniently considered here, in whom the headache is analogous in all essentials to the congestive type but bears no relationship to the menses. Nor are the attacks limited to the female sex. The headaches recur at irregular intervals, are very severe, confined to the base of the skull and mastoids, involving also the areas supplied by the cervico-occipital nerves. The attacks are precipitated by overwork, fatigue, anger and even oversleep. The subjects, as a rule, are young, and on slight provocation experience a feeling as if the blood was rushing to their heads. Their faces get red and pale very readily, and the underlying condition seems to be a vaso-motor irritability. A course with bromides, ergot and nitroglycerine, the last not to exceed gr. 1-200, has proved of value. Some patients also derive considerable benefit from the high-frequency currents applied to the neck and back of the head.

Another group related to the congestive type of headache comprise those women who have suffered with migraine in their early life, and with the onset of the menopause the attacks of migraine have ceased and are replaced by this variety of headache. There is a remarkable uniformity in the manner that the headache makes its appearance in these cases. At first the patient feels drowsy and appears unable to prevent yawning. Then the vessels of the neck become swollen so that some have to loosen their collars. An agonizing pain strikes the base of the brain and darts through to the forehead. Pressure around the neck gives temporary relief. Seldom they feel nauseated or have vertigo. Gradually the pain spreads along the spine to the extremities and disappears, leaving a sense of numbness and tingling behind. These attacks recur in some with astonishing regularity, not as to the day but even to the hour. No line of treatment has, as far as we know, proved of decided benefit to these patients. Continuous counter-irritation, as with a seton, would seem worthy of trial. One case of this kind by changing her residence has remained free for several months, while for years every other Sunday she had not escaped one attack.

Periodical headache is sometimes seen in comparatively young men and women whose arteries are prematurely sclerosed and whose blood pressure is above the normal continuously or shows marked exacerbations. One man, aged 35, moulder by occupation, several months ago began to have some pain in the head that would come on regularly every Saturday afternoon and last until Sunday night. The pain was intense and compelled him to go to bed. It was located over the right eye-brow. He has been examined by a competent rhinologist, who could find no focal disease in the nose or sinuses to account for the pain. His peripheral arteries, especially the radials, were greatly thickened and rarely ever seen in men under the age of 70. The blood pressure ranged above 160. He was put on small doses of iodids and every Friday and Saturday morning free catharsis induced. Three hours before the expected headache he was given some aconite and the dose repeated at night and the following morning. In this way the attacks were aborted for several weeks in succession, when the patient was lost sight of. Another patient, subject to obstinate constipation, suffered with a dull, heavy headache every third or fourth day, and the ordinary analgesics were useless in offering him any relief. His arteries were moderately thickened, the blood pressure averaged about 200. The apex of the heart was in the mammary line and the second aortic sound was accentuated. In addition there was polyuria. With strict vegetable diet and daily drastic catharsis the headache was markedly relieved.

Lastly, we may briefly refer to an affection which is not a mere headache, properly speaking, yet can be advantageously here included; viz., migraine, or what is popularly known as sick headache. It is a widespread affection and there are few ailments that inflict more suffering than does this upon its victims. Its periodicity and the explosive character of its symptoms have led some authors to link it with epilepsy. The fact, also, that there have been cases in whom one disease has alternated and replaced the other has lent considerable support to this view. The symptomatology of the disease, as in epilepsy, consists of some prodromata, headache, nausea and vomiting. In the majority of the instances the aura pertain to vision and range from amblyopia to hemianopsia, even actual hallucinations. The commonest warning is made up of some blurred vision or scintillations. Differing from epilepsy, the duration of these warnings is much longer and may last half an hour or more. A very unusual phenomenon occurred in a patient who had his first attack of migraine at the age of 36. One day, while busy at his desk, suddenly a large mass of cloud he saw at a distance. It gradually came closer to him until he was completely enveloped by it. Then it began to recede in slow degrees and vanished about half an hour after it made its first appearance. As soon as this apparition was lost sight of, an intense headache assailed him in full force. All patients do not have premonitory symptoms, however, some wake up in the morning with the pain.

The pain in hemicrania is, as a rule, unilateral and limited to one or the other supraorbital region. Occasionally it may involve all the branches of the fifth nerve. It is furthermore cumulative and grows in intensity as the hours go by, and reaches its climax with the onset of

nausea and vomiting. Some get relief from emesis and others dread the nausea worse than the headache.

Clinically, three varieties of migraine are recognized. (a) Sensory or ophthalmic type. (b) Motor or ophthalmoplegic type. (c) Psychic type. In the ophthalmoplegic variety, in addition to the three cardinal symptoms, we have a paralysis of some of the ocular muscles. The commonest involved are those supplied by the third nerve so that we may have a complete external as well as internal ophthalmoplegia. Rarely the external rectus or the superior oblique are paralyzed. The paralysis lasts usually about two weeks and then disappears. The psychic variety is extremely rare. The headache and the nausea are accompanied or replaced by certain mental symptoms. It may be a mere confusion of ideas of emotional depression with anxiety.

Mention should be made of certain vaso-motor phenomena that are observed with undue prominence in some of the cases and have been regarded by some as furnishing the key-note to the mystery of the disease. At the outset of an attack some patients look extremely pale, their hands and feet are cold, they may even experience some rigor. On the other hand, others complain of the converse of these symptoms. The first are recognized as the angiospastic and the latter as the angioporoetic type.

The pathology of the disorder, however, is unknown. There is no unanimous answer as to what causes these vaso-motor disturbances. To dub it with the title of a neurosis has thrown no light upon the subject. We know that it is notoriously hereditary and transmitted from one generation into another. Excitement, fear, anger, fatigue, poor ventilation and even one hour's longer stay in bed will precipitate an attack. Excluding all cases that are secondary to eye strain, be it astigmatic or mere orthophoria, and also those cases that are the result from naso-pharyngeal anomalies, there still remain a large majority that are to be treated on empirical lines, and no relief can be expected from glasses or operative measures. The most widely accepted view of the disease is that it is due to some metabolic disorder, the nature of which is undetermined. It is a fact that most of these patients are habitually constipated. Even those who have a daily evacuation of the bowels develop a peculiar odor in their breaths a day or two before an attack. Recently three patients have noticed a reduction in the amount of urine voided, and in one of these cases it could be actually demonstrated that there was perceptible reduction in the total solids excreted. Yet this phase of the question needs further study and determination.

Practically speaking, much can be done to ameliorate the condition of these unfortunate sufferers, although a complete cure seems to be out of the question. Among hygienic measures the most important are fresh air, life in the open whenever possible, abstinence from meat and other diet rich in proteid. Where a tendency to constipation exists a mixture of sodium salicylate, sodium phosphate and sodium sulphate is given daily on rising in the morning in a glass of hot water. Otherwise once or twice free catharsis is resorted to. As a specific medicament small doses of bromids with cannabis indica have proved the most serviceable. In cases that manifest marked vaso-motor symptoms, angiospastic or otherwise, nitroglycerine gr. 1-200 and strychnine gr. 1-60 can be advantageously given. The majority of these cases are decidedly neurasthenic and derive considerable benefit from the glycerin, ophosphate of line and syrup iodid of iron, especially when we can adopt a full or partial Weir Mitchell rest treatment. Now and again we meet with cases that are intolerant of any medicinal treatment. Continuous counter-irritation to the back of the neck is said to work well. Osler speaks approvingly of it in the last edition of his "Practice of Medicine." Some writers have advocated the injection of alcohol into the supraorbital nerve as it is practiced in tic douloureux. This may work well in certain neuralgic conditions of this nerve, but in true migraine little is to be expected from this procedure.

THE BLADDER AND THE PROSTATE.*

By JOHN F. W. WHITBECK, M.D.,
ROCHESTER, N. Y.

IN the minds of specialists and general physicians, the conception of the anatomy and physiology of the urinary bladder and prostate gland are essentially the same, but a knowledge of the diseases and the practical care of those organs are quite different in such minds.

It is not the purpose of the reader to attempt to present a scientific or novel paper for the expert, but rather a practical view of the subject for the consideration of the general physician. Furthermore, the reader doesn't intend to describe the operative treatment of the diseased prostate gland, or the different methods of operating, or, indeed any method. It will appear, however, that the reader is not opposed to the most radical, surgical treatment in suitable and needful cases and that too most emphatically. It has been estimated that at least one-third of all men do, in their lives, after forty or fifty years of age, have an enlargement—an obstructive enlargement—of the prostate gland and it is just as certain that hypertrophy of this gland, or increase in size from any cause whether simple or complex, does involve the urinary bladder in difficulties. This much is obvious to every physician.

* Read before the Medical Society of the State of New York, at Albany, April 18, 1911.

Owing to a prevention of a free flow, the residual quantity of urine after micturition, may be several ounces or enough to so paralyze the wall of the bladder as to cause retention. This retention may as you know, require the use of a catheter to empty the bladder and even a moderate residual urine may leave a portion to decompose and act as an irritant, or, to deposit a sediment from which by gradual but continuous accretion, a calculus can be formed. The properties of the urine, however harmless in a normal state, may be so changed by concentration and by the effects of food and drink as to increase the congestion of the prostate and the irritability of the bladder. It is, therefore, important to have the urine as bland as possible and to so regulate the ingesta and the time and frequency of urinating as to prevent injury and preserve the capacity and contractility of the bladder. With such understanding and such painstaking as the case demands, it will be surprising how much can be done for the good and comfort of the patient. Whatever view one may take of the desirability, ease, and safety of radical treatment, there are bound to be cases such as advanced and rapid advancing arteriosclerosis, nephritis, diabetes, senile dementia; or, insanity, tuberculosis, myocarditis, or other grave organic diseases in which prostatectomy would be hazardous and even if not fatal, practically useless, because an incurable malady remains, and the patient would be but doubtfully benefited.

As you are well aware, when the prostate gland is so much enlarged as to increase the residual urine to several ounces, necessitating very frequent efforts to urinate in the vain attempt to empty the bladder, with all the added inconveniences and insufferable annoyances, and perhaps much vesical tenesmus, a catheter must be used once or twice, or, many times, day and night. The patient will demand some suitable relief by medication and such other palliative remedies as the ingenuity and experience of the medical attendant may suggest. There can be no question but that alcoholic beverages, charged waters, coffee especially at night, much milk, acid fruits, much meat, by increasing the quantity of urine, or, by making it acrid, do aggravate the difficulties and multiply the discomforts of the sufferer from prostatic disease. Frequent micturition by reducing the capacity of the bladder, and this seems to be unavoidable in many cases, is sure to advance the advent of catheterized slavery.

If a patient can be persuaded and taught to gradually lengthen the intervals of urination within the limits of reason, much better control will be obtained with or without the aid of the catheter and the reader would especially urge that patients should be as careful and deliberate as possible while passing urine in order the more completely to expel some portion of the residual fluid. To be satisfied through impatience with passing an ounce of urine when by a little attention three or four ounces might be disposed of, is a mistake of no little consequence. Moderation of the drinking of liquids after night-fall will do much for the convenience and comfort of the afflicted, and pure soft water in sufficient quantity will be the best drink one could possibly use. Water is the best diuretic and it will do more to make the urine unirritating and bland than any agent that could be employed. At intervals, in certain cases, urotropin may be added to part of the water consumed.

The risk of catheterism taken all in all as the world goes, cannot be overestimated. In hospitals, and in promiscuous practice, it is no exaggeration to urge that rubber gloves should be used. The anterior urethra should be cleansed by syringing with a 1 to 10,000 solution of bi-chloride of mercury.

The glans penis and meatus should be dossilled with a bi-chloride solution. The catheter should be boiled and lubricated with an aseptic material. At all events, the hands of the operator, whether a physician, a nurse, or an orderly, should be scrupulously clean and the other precautions just enumerated, should be strictly observed. Conveniently and therefore at reduced risk, and available under most circumstances and emergencies, a No. 8 soft rubber catheter, which has been boiled in a solution of boracic acid, say two drams to a pint, together with a piece of sterile gauze in which the catheter is to be wrapped wet, may be kept in a large-mouthed, two-ounce, glass-stoppered or screw-capped bottle, and carried in the instrument bag. Obviously, two such catheters could be placed in the described bottle or jar, or, better still, two separate outfits may be kept on hand. A convenient lubricant which has some advantages may be composed of one part adrenalin solution with one part of a 4 per cent. solution of cocaine in 1 to 5000 bi-chloride and four parts of some standard aseptic lubricant such as is provided in tubes by chemists, may be kept in the instrument bag in a large-mouthed, ounce, glass-stoppered bottle. With this simple outfit, may be kept sterile, absorbent, cotton and a solution of 1 to 1000 bi-chloride of mercury, to be used for sponging the person of the patient and the hands of the operator. In the reader's hands, the No. 8 soft, catheter, has been found to pass into the bladder more easily than a size larger. Preserved in the damp, boracized gauze, the rubber seems to keep soft indefinitely. As to a metallic catheter, it has been chanced but rarely, and then only in old men with very large prostates, when the silver prostatic catheter was successfully employed. The reader has not been

tempted to jeopardize the urethra by trying a sound with a view to stretching the canal and channelling the prostate. Indeed, the reader has been more than content to preserve the natural passage intact and not to run the risk of making a false passage with all the misery, the pain and the interminable delay of the after treatment—to restore a urethral track.

As to the absurd proposal to cure prostatic disease by castration, the reader has had no experience and is not likely to have any through a measure so preposterous, so senseless, as it seems to him. On the other hand, prostatectomy is rational and offers a complete cure when the individual has no serious organic disease, but is sound or may be made so. Experience shows conclusively that a man in fair health may be cured surely and without danger. Contrast for the moment the entire relief afforded by the removal of the prostate gland when it is enlarged enough to act as an obstruction and a state in which the gland is allowed to remain and the lateral lobes to grow larger, while a middle or third lobe is formed and acts as a ball valve to close the urethral canal, though it lets a catheter pass easily. It is not the frequent desire and necessity to urinate, or the mere use of the catheter from which one shrinks and seeks relief, but the risk of infection, of cystitis, of calculus, of pyelitis, of abscess of the prostate, of traumatism from the use of various instruments and the progress from bad to worse.

The grim spectre of prostatic disease stalks before its victim by night and by day with a train of afflictions so fraught with woe, indescribable, that none but the sufferer himself can sense the agony and ne'er could tell the tale.

The Medical Society of the State of New York

CORRECTION.

Insert as first line, page 394, Vol. 11, No. 8: "Dr. Van Cott moved, and it was duly seconded and carried, that Dr. Charles Stover be appointed a member of the Committee on Public Health."

DISTRICT BRANCHES.

FIRST DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

ANNUAL MEETING, YONKERS, N. Y., THURSDAY, OCTOBER 12, 1911.

Preliminary Program.

President's Address, W. S. Gleason, M.D., Newburgh.

"Present Status of Our Knowledge of Poliomyelitis," Simon Flexner, M.D., New York City.

Discussion opened by L. Emmett Holt, M.D., New York City.

"Etiology of Arterial Sclerosis," H. Lyle Winter, M.D., Cornwall.

"The Cæsarean Operation," J. W. Poucher, M.D., Poughkeepsie.

"Danger Signals in Gynecology," W. Travis Gibb, M.D., New York City.

"Principles in the Treatment of Surface Wounds," E. C. Thompson, M.D., Newburgh.

"Anæsthesia," J. A. Card, M.D., Poughkeepsie.

SECOND DISTRICT BRANCH OF THE MEDICAL SOCIETY, STATE OF NEW YORK.

ANNUAL MEETING, BROOKLYN, N. Y., THURSDAY, OCTOBER 26, 1911.

Preliminary Program.

"Chronic Indigestion," James T. Pilcher, M.D., Brooklyn, N. Y.

"Cautery in Uterine Cancer," Walter B. Chase, M.D., Brooklyn, N. Y.

"Title to be announced," Lefferts A. McClelland, M.D., Brooklyn.

Title to be announced, Wendell C. Phillips, M.D., President Medical Society State of New York.

THIRD DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

ANNUAL MEETING, KINGSTON, TUESDAY, OCTOBER 3, 1911.

Preliminary Program.

MORNING SESSION, 9.30 A. M.

"Demonstration, Cystoscopic and Endoscopic Work," James Vander Veer, M.D., Albany.

"Demonstration, Surgical Cases," M. O'Meara, F. Snyder, and W. J. O'Leary, Kingston.

Inspection of Tuberculosis Hospital and Camp.

12. Luncheon at the Benedictine Sanitarium.

AFTERNOON SESSION, 1.30 P. M.

"Radiography in Physical Diagnosis" (illustrated), A. MacFarlane, M.D., and A. F. Holding, M.D., Albany.

"Psychotherapy in Organic Disease," J. J. Walsh, M.D., New York City.

President's Address, "Vaccination in Typhoid Fever," M. O'Meara, M.D., Kingston.

"Infant Feeding," H. L. K. Shaw, M.D., Albany.

EVENING SESSION, 8.15 P. M.

General Public Health Meeting.

"The Service of Biology in the Prevention and Cure of Disease," Prof. V. A. Moore, Cornell University.

After the meeting a reception will be tendered to the President Elect.

FIFTH DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

ANNUAL MEETING, UTICA, N. Y., THURSDAY, OCTOBER 5, 1911.

Preliminary Program.

MORNING SESSION, 10 A. M.

President's Address, "Growing Importance of Understanding Physical and Chemical Laws in Medical Practice," A. A. Gillette, M.D., Rome.

"Broncho-pneumonia in Children," H. A. Hoyt, M.D., Watertown.

"Chemistry of the Toxæmia of Pregnancy," W. A. Groat, M.D., Syracuse.

"Diagnosis of Toxeamia of Pregnancy," A. S. Hotaling, M.D., Syracuse.

"Some Facts Concerning the Faucial Tonsils and their Complete Removal," J. F. McCaw, M.D., Watertown.

"Diet and the Individual," W. M. Gibson, M.D., Utica.

"Some Aspects of Medical Education," J. L. Heffron, M.D., Syracuse.

Luncheon will be served at 1 P. M. by the members of the Medical Society of the County of Oneida.

AFTERNOON SESSION, 2 P. M.

SURGICAL SYMPOSIUM.

(*a*) "Anatomical Demonstration of the Hip Joint," H. S. Stiles, M.D., Syracuse.

(*b*) "X-Ray Demonstration of Injuries about the Hip Joint," C. E. Coon, M.D., Syracuse.

(*c*) "Diagnosis of Hip Joint Fractures," C. H. Baldwin, M.D., Utica.

(*d*) "Treatment of Fractures about the Hip Joint," D. M. Totman, M.D., Syracuse.

SIXTH DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

ANNUAL MEETING, ELMIRA, TUESDAY, OCTOBER 17, 1911.

Preliminary Program.

"Vaccination," D. S. Burr, M.D., Binghamton.

Title to be announced, H. H. Young, M.D., Baltimore, Md.

"Infantile Paralysis," H. L. K. Shaw, M.D., Albany.

"Physiology in the Schools," L. Coville, M.D., Ithaca.

"Responsibility of the Country Practitioner in Relation to Public Health," E. Bush, M.D., Horseheads.

"The Value of Examinations of the Blood to the General Practitioner," J. M. Swan, M.D., Watkins.

"The Ocular Hyperæmias," H. E. Smith, M.D., Norwich.

"The Present Status of Cancer," R. G. Loop, M.D., Elmira.

Title to be announced, K. F. Rubert, M.D., Oswego.

"The Dangers of Salvarsan," N. W. Wilson, M.D., Buffalo.

"Report of a Case of Purpura Hemorrhagia," Drs. H. De Wolf and J. M. Swan, Watkins.

SEVENTH DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

ANNUAL MEETING, ROCHESTER, THURSDAY, OCTOBER 19, 1911, AT HOTEL SENECA.

Preliminary Program.

1. "Tuberculosis of the Pelvis in Women," Earl P. Lathrop, M.D., Buffalo.
2. "Surgical Tuberculosis," James A. MacLeod, M.D., Buffalo.
3. "General Considerations in Tubercular Treatment," Norman K. MacLeod, Buffalo.
4. "Salvarsan vs. Mercury," E. Wood Ruggles, M.D., Rochester.
5. "Sanitation of Army Camps," Charles O. Boswell, M.D., Rochester.
6. "X-Ray Examinations as an Aid in Diagnosis," M. B. Palmer, M.D., Rochester.
7. "Influenzal Arthritis," J. P. Creveling, M.D., Auburn.
8. "Proctoclysis and an Apparatus that Works Satisfactorily," H. J. Knickerbocker, M.D., Geneva.
9. "Diagnosis of Diseases about the Waist Line," J. R. Culkin, M.D., Rochester.
10. "A Report of a Case of Paraplegia Inferior, with Treatment and Result," E. C. Foster, Penn Yan.
11. Subject to be announced, Nathan Jacobson, M.D., Syracuse.
12. Subject to be announced, William W. Skinner, M.D., Geneva.

There will be a Dinner at the Hotel Seneca on the evening of the 18th of October.

EIGHTH DISTRICT BRANCH OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

ANNUAL MEETING, DUNKIRK, TUESDAY AND WEDNESDAY, SEPTEMBER 26 AND 27, 1911.

Preliminary Program.

TUESDAY, SEPTEMBER 26TH, AFTERNOON SESSION, 2 P. M.

President's Address, T. H. McKee, M.D., Buffalo.

SYMPOSIUM ON SYPHILIS.

"Diagnosis," W. W. Quinton, M.D., Buffalo.

"Wassermann Test," A. A. Thibideau, M.D., Buffalo.

"Tertiary Lesions," E. A. Sharp, M.D., Buffalo.

"Treatment," G. W. Wende, M.D., Buffalo.

"Genuclasis: Its Indications and Counter-indications," R. O. Meisenbach, Buffalo.

WEDNESDAY, SEPTEMBER 27TH, MORNING SESSION, 9.30 A. M.

"Labor in Moderately Contracted Pelves," F. C. Goldsborough, M.D., Buffalo.

"Oxypathy," C. G. Leo Wolf, M.D., Niagara Falls.

"Splanchnoptosis and its Relief," A. T. Lytle, M.D., Buffalo.

AFTERNOON SESSION, 2 P. M.

"Gastric Symptoms; Significance and Treatment," G. W. Cottis, M.D., Batavia.

"Gynæcology as Met with and Treated by the Country Practitioner," G. H. Witter, M.D., Wellsville.

"Psychology and Psychiatry of Alcoholism," H. W. Johnson, M.D., Gowanda.

BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

MANUAL OF THE DISEASES OF THE EYE. For students and general practitioners, by CHARLES H. MAY, M.D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University, New York, 1890-1903; Attending Ophthalmic Surgeon to the Mt. Sinai Hospital, New York; Consulting Ophthalmologist to Bellevue Hospital, to the French Hospital, to the Red Cross Hospital, and to the Italian Hospital, New York. Seventh edition, revised. With 362 original illustrations including 22 plates, with 62 colored figures. New York. William Wood & Company. 1911. Price, $2.00 net.

THE GOULSTONIAN LECTURES ON THE SENSIBILITY OF THE ALIMENTARY CANAL. Delivered at the Royal College of Physicians on March 14, 16 and 21, 1911. By ARTHUR F. HERTZ, M.A., M.D. (Oxon.), F.R.C.P., Assistant Physician and Physician-in-Charge of the Department for Nervous Diseases, Guy's Hospital. London. Henry Frowde, Hodder & Stoughton. Oxford University Press, Warwick Square, E. C. 1911.

FIFTY-SEVENTH REPORT relating to the Registry and Return of Births, Marriages, and Deaths, and of Divorce, in the State of Rhode Island, for the year ending December 31, 1909. Prepared by GARDNER T. SWARTS, M.D., State Registrar of Vital Statistics; Secretary of the State Board of Health; Commissioner of Public Health. Providence. E. L. Freeman Company, State Printers. 1911.

ELEMENTS OF PHYSIOLOGICAL PSYCHOLOGY. A Treatise of the Activities and Nature of the Mind from the Physical and Experimental Points of View. (Thoroughly revised and re-written.) By GEORGE TRUMBULL LADD, LL.D., Emeritus Professor of Moral Philosophy and Metaphysics in Yale University, and ROBERT SESSIONS WOODWORTH, Ph.D., Professor of Psychology in Columbia University. Illustrated. New York. Charles Scribner's Sons. 1911.

DEATHS.

HERMAN P. BENDER, M.D., Brooklyn, died August 15, 1911.

EDWARD B. COBURN, M.D., New York City, died August 10, 1911.

BENJAMIN EDSON, M.D., Brooklyn, died September 5, 1911.

FRANK P. FOSTER, M.D., New York City, died August 13, 1911.

CHARLES O. GREEN, M.D., Hornell, died August 3, 1911.

ALVIN A. HUBBARD, M.D., Buffalo, died August 10, 1911.

WILLIAM B. LANE, M.D., Brooklyn, died August 27, 1911.

JOHN RANDOLPH QUINN, M.D., Brooklyn, died August 10, 1911.

BENJAMIN WILSON, M.D., Rochester, died August 13, 1911.

NEW YORK STATE JOURNAL OF MEDICINE

A Journal Devoted to the Interests of the Medical Society of the State of New York

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EDITORIAL DEPARTMENT

A FOREWORD FROM THE PRESIDENT.

To the Members:

I DESIRE to call your attention to a reorganization of the Scientific Sessions of the Society which has been adopted for the next Annual Meeting to be held in the city of Albany, April 16, 17 and 18, 1912.

The departure from our usual procedure can best be described by stating that we have, so far as possible, adopted the general plan followed at the annual meetings of the American Medical Association. With a membership in round numbers of 7,000, and being the largest of any similar society throughout the Union, it is fitting that the sessions of our annual meeting should be so arranged, and cover sufficient time to permit the members so inclined to present the results of their scientific labors in a proper manner and to enlarge the period for a wise discussion. It is manifestly impossible to accomplish this result in the short space of time which has been allotted for this purpose during the recent years. For instance at the last annual meeting, the scientific portion of the session was crowded into Tuesday afternoon and Wednesday. This short space of time was absolutely inadequate to the proper presentation of the papers which constituted the excellent program provided by the Committee on Scientific Work. Discussion was curtailed, and some of the readers were also crowded out.

It seems to your president, and his views have been concurred in by the council, that we should attempt to arrange and conduct a scientific program, giving to the same sufficient time for presentation and discussion, that will be worthy the profession of the Empire State. Our membership constantly increases, but with this increase in membership the yearly attendance at the annual meetings has made no increase, and at the last session its meagreness is evidenced by the registered attendance which was 412. There must be some remedy for this lack of interest in our annual conclave. The remedy suggested is that we supply a program of wide interest covering every phase of medicine and surgery, even that pertaining to public medical institutions and public health. In the past it has been argued that our program should be confined to topics that would be of interest only to the general practitioner, but when we consider that our membership contains hundreds of physicians whose interests are confined to the various specialties —and this term is used in its broadest sense— it is only fair that our annual program should provide an outlet for the labors of these men— for instance—a canvass now being made throughout the State reveals the fact that there are upwards of 400 physicians who practice the eye, ear, nose or throat. A similar condition exists in all the specialties. Naturally these men could not be prevailed upon to attend an annual meeting made up of papers which are entirely foreign to their special fields of labor. This is a state of affairs which has developed largely within recent years and we have not kept pace with this development. A large number of our state societies have adopted the measures which are proposed for our own society and the results have justified the wisdom of their action. Their attendance has increased and in many instances doubled,

so that in some states with less than half the membership of the Medical Society of the Empire State, the annual attendance reaches from 800 to 1,200.

I realize that there has been and is opposition to the adoption of sections, but it seems to me that in consideration of the fact that under the present system the attendance is so small, we are fully justified in the inauguration of the plan above suggested.

The Ohio State Society contains seven sections and their meetings are attended in large numbers and are invariably successful. The American Medical Association has eleven sections. After most careful consideration it has been deemed wise that as a beginning we organize the fewest possible number of sections and it is probable that our program will be constituted of five sections, namely: Section on Medicine; Section on Surgery; Section on the Eye, Ear, Nose and Throat; Section on Mental and Nervous Diseases, Eugenics and Medical Expert Testimony, and finally a Section on Public Health. There will be general meetings before which men of national reputation will be invited to deliver addresses, and many of the meetings may appropriately be thrown open to the general public and thus produce far-reaching results. More than likely topics will be arranged which will require the temporary combination of two or more sections for a session. The annual Scientific Session will probably convene on Tuesday, April 16th at 12 o'clock, giving Monday evening and Tuesday morning to the business sessions of the House of Delegates. From Tuesday noon until Thursday P. M., the Scientific Sessions will be held. It is hoped that another and far-reaching outcome may arise from the section meetings and the longer period of time covered by the annual meeting. I refer to the good fellowship and *esprit de corps* which will naturally follow the intermingling of men whose interests lie in the same direction.

Fortunately the city of Albany will be better equipped for an annual session than heretofore. It is believed that the new Educational Building will be completed and at our disposal. This will furnish a bureau of information and registration, where the members and guests may receive badges, programs and other literature which may be provided for the occasion and a fine hall for our general sessions. It has also been ascertained that meeting rooms of sufficient size and centrally located will be at our disposal for the gatherings of the sections. Albany now has two large hotels, which, together with the older and smaller ones are sufficient for the needs of the members, providing they make their reservations in advance. Efforts will be made to furnish opportunities for the advancement of friendships by means of social entertainments.

The responsibility for this innovation lies largely upon your president and he bespeaks your hearty co-operation in the consummation of the above outlined plans.

Wendell C. Phillips.

AS OTHERS SEE US.

(*The Brooklyn Eagle, September* 2, 1911.)

A Medical Abomination That Must Be Brought to an End.

THE Medical Society of Erie County numbers about five hundred doctors. They are represented by many general practitioners and a lesser number of surgeons. The charges or compensation of practitioners at the highest are low, compared with the fees of surgeons. A committee of the society, comprising the most distinguished, honorable and efficient members of it, have made a report disclosing a sorry state of things. It is disclosed that sundry surgeons, who are highly remunerated, split their fees with many of the physicians, who send cases to surgeons for operation. The tendency of this collusion is to declare operations are necessary, which are not necessary, in order to increase the money which conspiring surgeons and conspiring practitioners can divide between them, at the expense of the life or the mutilation of victimized patients and always at the expense of their pockets.

The committee sent its report, with suggestions that the Erie County Medical Society should rebuke and denounce and unite to reform the abuses laid bare, to every member of the medical society, and with it a request that they would have the report published in the medical and secular newspapers, as well as transmit their views to the committee. The response was significant. Just about thirty-one of the members of the society made answer in a tone of sympathy with the committee. Over 480, nearly, if not quite, 500, members made no answer at all.

Nothing was done to secure the press publication of the report. The result is as disgraceful and mortifying and barbarous as possible, and would be incredible were it not demonstrable. The enormity of the sin against ethics, against common honesty and against victimized humanity cannot be measured, for it is immeasurable.

Fortunately the committee sent its report to the members of the State Board of Medical Examiners, appointed by and responsible to the Board of Regents. The Board comprises the following men, the figures at the front giving the dates at which the terms of the appointees will expire: 1912—Arthur W. Booth, M.D.; 1912—William H. Park, M.D.; 1912—Aaron B. Miller, M.D.; 1913—P. Hanson Hiss, Jr., M.D.; 1913—Glentworth R. Butler, M.D.; 1913—Lee H. Smith, M.D.; 1914—Floyd S. Farnsworth, M.D.; 1914—Henry B. Minton, M.D.; 1914—Ralph H. Williams, D.O.; Secretary, Maurice J. Lewi, M.D.

We present these names of honorable men that the public may learn, as it should, that they have done what they could to expose and condemn the abominations that exist in Erie County, and in less degree in other counties. The Regents at their meeting, on Thursday, received and adopted a report from Dr. Draper, the executive of the Board, which roundly condemned the abuses of the Erie society, but was careful to insist that such abuses do not largely exist in other counties, and to point out that late action of the Board has made extremely difficult the continuation of the abuses even in Erie County and the spread of them elsewhere. It had been better had the Regents sustained the drastic recommendations of the State Board of Examiners instead of leaving the correction of what we do not hesitate to denounce as morally a crime to the progress of time. The Board of Regents will, however, soon have to do what it refrained from doing, Thursday, for public opinion will force the Board to do so. What is deferred is neither prevented nor long postponed, after condign public wrongs are brought to sovereign public notice.

The *Eagle* sets forth to-day the statements exposed to view, the condemning characterization of Erie County facts by the Regents and the hopeful promise of corrective action ere long, by the State Board. The declaration of wrongs and the promised provision of remedies could not be better made. The State will see to it that, within or outside the medical profession or of the Board of Regents, reform will come, and soon. For in matters protecting health and life against syndicated conspirators against both there can be no steps backward and the disclosures to-day have kindled a fire which will not be extinguished until the abomination shall have been burnt

Comment.

The report of Dr. Draper to the State Board of Regents, referred to in the foregoing editorial written by Dr. McKelway, Vice-President of the Board of Regents and editor of the *Brooklyn Eagle,* will be found on page 498 of the New York State Journal of Medicine. We commend this editorial and report together with the report of the Erie County Medical Society (New York State Journal of Medicine, February, page 93) to the careful consideration of every honorable member of the medical profession in this state individually, and collectively to all county societies. In this connection it will be just to read also the further report of the Erie County Society, appearing in the August number of the New York State Journal of Medicine on lodge practice, for the practices condemned in the later report have an important bearing on the custom referred to in the *Eagle* editorial. The profession of Medicine is for the most part composed of honorable and high-minded men. We have some black sheep among us, but none of the learned professions is free from that sort of contamination. If then the charges which are brought against us are true, it is necessary to seek out the reasons which are driving our members into illicit and degrading practices. First we are compelled to admit that there is nothing illegal in accepting commissions. A man cannot be fined or imprisoned for being a party whether giver or receiver to this sort of bribery. Neither is it illegal for a man to engage in lodge work. Both practices are demoralizing and degrading, neither is as yet against the law of the land. Nevertheless there seems to be a general agreement among all medical bodies that the custom of taking and giving commissions is odious and immoral and that lodge practice and all other forms of contract practice, if not immoral are certainly degrading and inconsistent with the best interests not only of the profession, but the public as well. Why then, as individuals do we do what we collectively condemn? This question finds its answer in the economic conditions which surround the medical profession to-day. In a word, all other forms of business have changed. Our business methods have remained the same. The progressive business men of to-day have recognized the evils of destructive competition and the advantages of co-operation. The skilled mechanics, even the common day laborer and the men engaged in meaner trades have learned the benefits of combination, and

have abandoned the old system of competition. Medical men alone have been unwise in their day and generation and are at present engaged in the bitterest sort of destructive and savage competition. This is the very foundation stone of all the evils of which complaint is made. "Hunger is the best sauce," says the ancient. Not if it whets evil appetites and turns men into brutes, pushing and shoving at a common trough. Yet that is what is happening to the medical profession to-day. We are beset on every hand with economic difficulties. Our expenses have increased at least one-third in the past ten years, so the ordinary office fee of one dollar to-day only buys as much as 66 cents did a few years ago. Our incomes have suffered not alone because of the rise of prices. Sanitary science and preventive medicine have done a great deal to curtail our incomes, a fact which every family practitioner knows too well.

Now there is a business side to medicine as well as a scientific. Our position compels us to make a good appearance before the public. We have families to support and educate, not to speak of provision to be made for the non-productive period which comes through inevitable sickness or advancing years. What have we done as a profession to compensate for the losses due to preventive medicine and the shrinkage in the value of our dollar? Have we raised our rates as we are entitled to, by every consideration of equity and the dictates of the simplest principles of political economy? Not so. Why not? Mechanics' wages have advanced. The wages of domestic servants have advanced. Tradesmen's prices have advanced. Our prices to our clients remain stupidly the same, because of the destructive competition which is going on among us. Every man fears his neighbor. Loyalty to each other has become a thing of the past. We are too stupid to recognize the need of reform, too spineless, treacherous and cowardly to put it into effect.

Few of us enjoy the luxuries of life and many of us want even its necessities. In this way hunger has been the sauce which has whetted our appetites for evil food. Moreover our clients have been keener-witted than we, and under the various forms of contract practice have combined against us and offered us contracts at ruinous prices. The lodge, moreover, finds plenty of needy and hungry doctors who snap like wolves at the bait and have not brains enough to see the trap. No wonder that we are falling into evil, if not illegal practices. A needy family is a spur which drives a man to do anything to supply its needs, provided he keeps within the law. No resolutions from Erie County, no editorials from Dr. McKelway or recommendations from Boards of Examiners or Boards of Regents are going to cure these evils. They will flourish like the weeds of a neglected field until the members of the medical profession recognize the economic conditions which are responsible for their growth and take concerted measures to meet changed conditions. Finally, to sum up all remedies in one word, until we realize the value and necessity of Loyalty, no reform is possible.

MEDICAL EXPERT TESTIMONY AGAIN.

In midsummer of this year a vicious youth of seventeen gained access at night to the apartments of an old man of inoffensive habits for the purpose of robbery. Expecting to find his victim abed, he took with him a bottle of chloroform, with the intention of deepening the unconsciousness of sleep so that he could pursue his scheme of robbery unmolested. The robber met with unexpected resistance and the room of the victim gave evidence of a desperate struggle. The old man fought hard. The bed and walls of the room were splashed with blood and the carpet was soaked. The victim was found dead by the police with finger marks on his throat, three cuts on his head; his jaw dislocated and a rag soaked in chloroform jammed down his throat.

Two medical men were found by the defense who were willing to go on the stand and testify that the old man died of natural causes and that the assault was not the cause of his death. One of these experts, described as an elderly physician by the press (N. Y. *Times*, August 31st), admitted that he had not made an autopsy in thirty years. His name is not to be found in the forthcoming "Green Book." From what depths of obscurity he was dragged by the defense does not appear in the evidence. The other physician, although not a member of the County Society, is a graduate of sixteen years standing of a reputable institution. In the face of the evidence that the old man had three cuts on the head, a dislocated jaw and a chloroform soaked rag thrust down his throat, this "expert" testified that he was positive that death resulted naturally from myocarditis, the position of the body in death proving this to his complete satisfaction. He was also certain that a person could not die of asphyxiation and at the same time have bleeding wounds. He persisted that he would remain of this opinion even if the chloroform soaked cloth which the murderer had shoved down the victim's throat had shut off his breath.

It is not often that we are confronted with so atrocious an example of the evils of our present system of expert testimony. Medical men are unfortunately too apt to look favorably on the side which summons them to testify, but it is very seldom that they do not have at least a colorable excuse for their testimony. The evidence of these two witnesses was a joke, a sorry joke, a most humiliating joke, absolutely unique in its grim

humor and grotesqueness. The old man was savagely assaulted and choked to death. As well testify that a man who died from a judicial hanging died of natural causes. Yet two medical men were found by the defense who were willing to make themselves ridiculous and disgrace the profession in the eyes of all men by insisting that the poor strangled victim of a murderous young thug died of natural causes. The mind revolts at such perversion and the blush of shame rises to the cheek of every man to whom the honor of the profession is dear. But what is to be done? Is there no remedy for such a flagrant abuse? Are the members of the medical profession satisfied with a condition of things in which such an abuse of privilege is possible? As a profession we deserve all the rebukes which are leveled at us from the bench, all the gibes of the press, as long as we permit this state of things to continue. More. We have to clean house ourselves. The medical profession may as well make up its mind to expect no assistance from the bar or the legislature. Not that the lawyers do not recognize the evil; not that they have not, of late, at least, been willing to co-operate, but because it seems impossible under our system of jurisprudence to draft a law changing the present practice which will not be declared unconstitutional by the courts. The sooner the medical profession recognizes that the cure of this crying evil rests with it and it alone, and that it is useless to expect reform from bar or legislature, the sooner shall we be rid of the disgrace. If we continue our present attitude of helplessness and supine content we shall, as a profession, deserve the contempt of the public and get it.

A NOTABLE BIRTHDAY.

THE NEW YORK STATE JOURNAL OF MEDICINE presents its congratulations to the *New York Times* on the recent attainment of its 60th birthday. A newspaper, fortunately, is not like a man in that senescence comes with years. Rather the contrary.

Through its three-score years the *New York Times* has stood for all that is best in journalism. Never sensational, always sincere, always fearless, the *Times* has contributed to civic betterment and political uplift. It has been singularly free from offensive partisanship and unreasoned bias.

The medical profession has ever possessed a sincere friend and champion in the *Times*. Its editorials on medical subjects, notably those which from time to time appear in the columns, entitled "Topics of the Times," have been reasonable, temperate and just.

The medical profession acknowledge with gratitude the services which the *New York Times* has ever rendered to the cause of scientific medicine. It has been the foe of quackery, pretentious fraud and superstition, and always a just and temperate critic.

Original Articles

CONCERNING CERTAIN PHASES OF DIAGNOSIS BY MEANS OF THE CYSTOSCOPE AND CYSTO-URETHROSCOPE.*

By LEO BUERGER, M.A., M.D.,
NEW YORK.

WHEN I received the kind invitation of your chairman to read a paper on cystoscopy or some related subject before your honored body I hesitated not a little in my decision as to what part of this large field would interest you most. The rapid strides that have been made in the art of cystoscopy during the past ten years, have given us methods that stand prominent and certainly second to none in our armamentarium of diagnostic procedures. What by the introduction of means for the investigation of the functions of the kidneys, what, by virtue of the activity displayed in the construction of new instruments, and what through the invention of procedures for endovesical treatment, we possess to-day an array of facts, and a series of therapeutic props that are most gratifying to those who make use of them, and of inestimable value to the patient, the physician and the surgeon.

To those who have made a special study of this line of work, the status of the art of cystoscopy as it is practiced by many even in the hospitals to-day, and, further, the lack of interest displayed by the general practitioner in the diagnostic and therapeutic benefits that could accrue to his patients by the proper application of the methods under consideration, are a source of surprise. During the past five years, it is true, in this country, at least, a noticeable impetus has been given to the adoption in a routine fashion of the methods that had already found wide application in Germany, more than a dozen years ago. But in spite of the fact that many have of late years been devoting themselves towards perfecting their technic in cystoscopy, I think that most all of us will agree, that this procedure has as yet found but too little favor in the eyes of the internist. In view of these facts, it would appear not amiss for me to divide up my subject matter as follows, taking up: First, the discussion of what constitutes a reliable cystoscopic examination; second, the consideration of the application of the cystoscope in diagnosis; and, thirdly, the presentation of those data that we have been able to acquire of late in the estimation of the normal and pathological neck of the bladder and posterior urethra, since the development of the cysto-urethroscope.†

Before entering upon the discussion of our first theme, let us inquire into the reasons for that apathy which is still so prevalent in many

* Read before the Medical Society of the County of Monroe, May 16, 1911.
† Buerger, *American Journal of Surgery*, May, 1910.

quarters, when a mention of cystoscopic examination is made. Those of us who have had occasion to avail ourselves of the cystoscope in a routine way, do not hesitate to regard it as one of our most valuable assets. It seems to me from my own observation that a certain inertia had been engendered in many quarters by reason of the fact that the technic has not been sufficiently mastered by those who profess to employ the method. The medical man in his struggle with the overwhelming array of medical facts, and with the requirements of surgical technic is frequently led, because of circumstances, to take up the refined diagnostic procedures in a dilettanti fashion. And, so, the cystoscope has fallen into the hands of those who have not had adequate opportunity to master its use, with the result that not only is some slight harm occasionally done, but also difficulties are encountered which are laid not to the door of the incapable workman, but are often regarded as a *sine qua non* of the employment of so-called "intricate" and even "barbarous" procedures.

It may be laid down as a dictum that the cystoscope when properly employed, should cause no pain in the large majority of cases. In the male a certain amount of discomfort is the rule, whereas in the female even this is absent in most instances. The great desideratum, and one which is a source of most gratification to the operator, is the attainment of a practically painless technic. Adequate local anesthesia, preparation of the patient, gentleness in all manipulations, and, above all, the ability to execute the work in the shortest possible time, are the essential factors of success. In the average case a thorough examination of the bladder can be made within two minutes after the instrument has been introduced. In extreme cases, the thorough investigation of the interior of the bladder may take three or four minutes, but I recall no instance in many examinations where every detail could not be studied before five minutes had elapsed. And so it is with the catheterization of the ureters. When the surgeon or specialist has attained a sufficient degree of proficiency in this very simple maneuver, he should be able to introduce the catheters into both ureters in less than ten seconds in the average case. Having previously located the ureteral orifices during the period of his study of the interior of the bladder he will encounter no difficulty except in those relatively rare instances, in which, because of some inflammatory process, or because of the presence of an obstruction, certain special refinements, such as change of catheters may be found necessary. Even here the obstacles to a speedy execution of more complicated measures can be greatly diminished by the use of the cystoscope* which I present here for your inspection. I have been using it for almost four years because, as I have elsewhere pointed out, it is not only easily borne by the patient, but, by reason of its special mechanical and optical features, has (it seems to me), a wider sphere of usefulness for the simple inspection of the bladder and for purposes of treatment and catheterization than most of the other instruments of the Nitze type.

Our own routine consists of the examination of the bladder, the synchronous catheterization of both ureters, the investigation of the presence of ureteral obstruction, the determination of the size of the pelvis of the kidney (if there be indication for such exploration), and the estimation of the functional capacity of both organs.

Let us now consider briefly by case illustrations drawn from my own files some pregnant examples of what the cystoscope can accomplish. From these we shall see the fallacy of a policy of procrastination in adopting adequate diagnostic aids; we shall have to acknowledge the incorrectness of an attitude of indifference towards what the newer methods can accomlish; and we shall appreciate how unjustifiable is that reluctance, on the part of the internist, which causes him to refrain from subjecting patients to thorough examination; and shall become assured that such hesitation would soon give way to active interest after an opportunity to witness thorough cystoscopic examinations has been afforded. It would be superfluous to expound at length the utility of the cystoscope in the diagnosis of the ordinary affections of the bladder and kidneys. For this is now common knowledge. But the belief that still finds mention in many text books, that is still taught in many schools, and is still part of the fixed notions of many practitioners, namely, that a differential diagnosis between affections of the bladder and kidneys can be made from clinical findings alone, or from an examination of the urine, I wish here to characterize as fallacious. Let us cast aside all speculation and much of the so-called clinical sense, and call to our aid definite and reliable methods.

There is a primary cystitis that occurs in women characterized by peculiar lesions in the regions of the neck of the bladder, which is commonly called *cystitis colli*. Its onset is somewhat acute, at other times chronic, and it may be preceded by an acute diffuse cystitis. Whenever a female patient has passed through the stages of an acute cystitis and fails to become relieved of her urinary symptoms after the lapse of three or four weeks, an examination with the cystoscope and cysto-urethroscope is in order, for it will frequently reveal the typical lesions which may be cured by topical applications of strong silver nitrate solution, whereas the ordinary methods of bladder irrigation will not succeed in ameliorating the condition. Alterations in the mucous membrane and the neck of the

* *Annals of Surgery*, February, 1909.

bladder will at times give very distressing symptoms; in other patients their presence is hardly felt.

Miss X., a nervous young woman of 21 years, had been suffering for more than two years with frequency of urination, which, in spite of bladder irrigations by several physicians, and, in spite of all medication, became progressively worse, so that when she consulted me she voided three or four times an hour, always with burning and tenesmus, although the urine was practically normal. Cystoscopic examination revealed the presence of villous proliferations of the neck of the bladder, a mild degree of cystitis colli and three minute papillomatous excrescences. Catheterization of the affected area followed by progressive dilatation of the bladder resulted in a complete cure within a month. The failure to recognize the need for early examination in these cases may give the process time to produce indurative changes and leukoplakia that are extremely obstinate, and may not yield to treatment at all. Such conditions will often simulate tuberculosis in their symptomatology, and should, for this reason, too, call for employment of the cystoscope.

Although, in the male, primary cystitis independent of prostatic enlargement, stricture of the urethra, calculus, instrumentation or gonorrhea is rare, it can occur, as my case records show. However, every such case should be examined, the ureters inspected, and the condition of the kidneys investigated at some time during the subsiding stage, so that possible affection of the kidneys be not overlooked.

An interesting condition and one concerning which we need many more clinical data and much more thorough investigation before it shall be thoroughly understood, is *bacteriuria* not associated with a purulent or inflammatory process. Although a chronic condition of bacteriuria is often indicative of pyelitis, is often associated with stone of the kidney and may follow operative procedures on the pelvis of the kidney and the bladder, there are many cases of unexplained bacteriuria all of which should be studied with the cystoscope, so that more definite knowledge can be obtained and definite methods of cure discovered.

Mr. N., who has been suffering from constipation for many years, had a number of attacks of cloudy urine with frequency of urination and during two of these attacks his ureters were catheterized by me and pure cultures of *bacterium coli* obtained. General treatment directed towards the relief of his constipation brought about a complete cure. Other cases of bacteriuria, one of which was associated with an enlarged prostate, yielded to urotropin although the treatment with autogenous vaccines failed. Bacteriuria was found associated with a stenosis of the ureter in a case where a calculus had been previously removed and stricture of the ureter had ensued.

A not uncommon history, and one that is indicative of the failure to appreciate the necessity for an inspection of the bladder, is the rather typical story of H. S. who consulted me in February, 1909. He had had gonorrhea about a year ago and his prostate was involved. But for the past six months he had been treated both by general practitioners and by specialists who were all of the belief that the prostatitis was responsible for the pyuria. Cystoscopic examination revealed a pyonephrosis of the left kidney, the functional tests showing that we were dealing with a dead organ on the left side.

But it is the patients who are affected with *tuberculosis* of the kidney that are the greatest sufferers from conservatism and procrastination in the application of the newer diagnostic methods. Pollakiuria may be the only symptom for weeks or months and may appear long before the urine shows evidences of disease. The early use of the cystoscope will often result in a diagnosis either through the recognition of the typical early lesions at the mouth of the ureter of the successful isolation of the tubercle bacilli from one kidney.

H. J. L., seen by me in August, 1910, is illustrative of a number of others in my files. He had had gonorrhea seven months previously for which he was treated, and the diagnosis of cystitis and prostatitis had been made. For the past six weeks his bladder has been irrigated and his prostate has been massaged. In spite of this there were a few pus cells in his urine and he had to avoid rather more frequently than what he considered normal. Cystoscopy revealed the unmistakable evidences of an advanced tuberculosis of the left kidney, the function being delayed, the urine of the affected side containing pus and numerous tubercle bacilli.

There are many cases in which the mere taking of a history or even a careful physical examination and a thorough urinary analysis will give absolutely no clue as to the diagnosis. Some of these suffer from pollakiuria, or from dribbling of urine, others from diminished force of the stream when the sound meets with no obstruction, others from incontinence, others from retention. Many of these present a large group of patients who are suffering from nerve lesions, sometimes from definite lesions of the cord, from myelitis, tabes, syringomyelia, lesions of the conus; and still others, in whom even cystoscopic examination, or investigation with the cysto-urethroscope, will leave us in doubt. Nevertheless the necessity for recognizing a nerve lesion, and the necessity for ruling out disease of the kidney, tuberculosis, stone or tumor makes the use of the cystoscope imperative.

Mr. L. M., 34 years of age, gives a rather typical history. For more than three months he has had attacks during which he is unable to hold his urine. He would void in bed, although often during the day he has been able to control

his bladder. There has been a noticeable diminution in the force of the stream. He has been sounded, his prostate has been massaged and he has received internal medication for more than six weeks without avail. The examination revealed the typical trabeculated bladder so regularly seen in tabes and other lesions of the cord.

A most fruitful field for cystoscopic examination is afforded by those conditions where a calculus is lodged either in the bladder, kidney or ureter. Such examination is indicated mostly in cases of nephrolithiasis or ureteral calculus not only to aid in the diagnosis, but also to investigate the site of the obstruction and to facilitate the passage of stones down the ureters by the injection of oil or glycerin along the course of the ureters and preferably beyond the stone itself. Since the X-ray may fail to reveal a shadow and since it is very frequently important to get additional data as to the indications for operative interference, it will be a source of gratification to us when definite data are supplied to us by the method under consideration.

Mrs. F. S., 23 years of age, had attacks of renal colic about a year and a half with bloody urine during the past three and a half months. X-ray examination shows a small stone in the pelvis of the kidney which under ordinary circumstances would have been regarded as small enough to pass. Ureteral catheterization, however, revealed a pyelitis, or, at least an infection of the kidney harboring the stone, and, in view of this fact, gave a positive indication for early removal of the calculus.

Thus, also, indication for removal of the calculus in the ureter by operative procedure is at times set by the cystoscope. The X-ray picture of L. B. H. shows a small calculus about an inch and a half above the orifice of the right ureter. Ureteral catheterization shows the presence of a small amount of pus containing streptococci presumably in the neighborhood of the stone which is evidently incarcerated. The presence of the pus and streptococci and the failure of the stone to pass within a short time, gives us adequate reason for operative interference.

I shall not dwell upon the discussion of the numerous examples of hydronephrosis and of mild degrees of pelvic dilatation which have come to my notice, for this subject would require more time than I have at my disposal. Suffice it to say here that very frequently, particularly in women, symptoms of appendicitis may be simulated by mild degrees of pelvic dilatation and hydronephrosis produced either by anomalous conditions of the ureter, by aberrant vessels, by tumors or what not. By means of the cystoscope and ureteral catheterization, measuring the capacity of the kidney, with injection of methylene blue, and by the taking of X-ray pictures after the pelvis has been filled with collargol or argyrol, a very satisfactory and definite idea of the size of the pelvis can be obtained.

Rather remarkable but nevertheless true (as shown by the records of numerous cases) is the fact, that even vesical calculi are overlooked by those who resort only to the stone searcher and the so-called pure clinical sense. Except in rare instances, it is to the cystoscope and not to the stone searcher that we should look for aid in the diagnosis of this condition.

Following operations in the pelvis (particularly the gynocological operation), persistence of even mild bladder or urinary symptoms should at once call for the application of the cystoscope. Thus I have not infrequently seen unsuspected holes in the bladder after laparotomy, particularly when the so-called transverse Pfannenstiel incision had been used, and have been able to set the proper indication for treatment in those cases where the ureters have been injured.

In doubtful infections of gall-bladder where the diagnosis is not positive more frequent use of the cystoscope will prevent many mistakes.

There occur cases of subacute infective endocarditis (as has been pointed out by Libman of New York) in which infarctions of the kidneys not infrequently give a clinical picture diagnosticated as pyelitis, or acute unilateral hematogenous infection of the kidney, and an operation upon the kidney has been done, when the cystoscopic findings might have lent a staying hand.

Finally, let me dwell for a moment upon some of the conditions of hematuria. Bilateral hematuria due to nephritis is easily recognized. The reason for unilateral hematuria, however, which, too, may be due to nephritis, is somewhat more difficult to determine. When the side of the lesion has been located, the proper use of the ureteral catheter, together with sufficient experience, will usually enable us to differentiate between nephritis, angioma, tumor, stone or tuberculosis.

A most important application of the cystoscope and one to which I might call attention is in the treatment of papilloma of the bladder. These very frequently remain unrecognized for years. Thus Mr. A. E., 40 years of age, had had attacks of hematuria for many years. For more than ten years he had consulted physicians and no diagnosis made. Cystoscopy revealed a large papilloma that responded to the fulguration treatment after five sittings, resulting in a prompt cure.

Mr. S. K. had been bleeding for two years after instrumentation although the bleeding was slight, occurring from time to time at the end of urination. Cystoscopy revealed an ulcer which was promptly healed by cauterization with the fulguration method.

Another equally interesting case is that of Mrs. E. G. who consulted me June, 1909. She had suffered for four years with attacks simulating renal colic, and, although the X-ray was negative, her physicians had all assumed that a stone was present. Cystoscopic examination showed a papilloma in, and surrounding the left

ureter. Doubtless in this case, the symptoms were due to retention of urine in the kidney whenever a transitory occlusion of the ureteral ostium by villi took place.

In this brief resumé I hope to have emphasized the great importance of the early and thorough application of the cystoscope and ureteral catheterization not only in those conditions that may be easily recognized as involving the genito-urinary tract, but also in many obscure abdominal diseases and general diseases where the kidney may be the seat of the trouble or when even a negative finding may be of value for purposes of exclusion.

Let us now turn our attention to a method that has been more recently devised for the study of the posterior urethra and neck of the bladder. Before the development of the cysto-urethroscope*—a telescopic instrument that has been employed by me for about two years, the study of the region under consideration had for a long time been neglected; for, we had not at our disposal the means for bringing the parts into good view. It would be hardly possible for me, to give you more than a glimpse into the wide field of pathology that systematic studies with cysto-urethroscope have revealed, and I shall confine myself therefore, to a brief mention of some of the more important findings, illustrating these by the lantern views that I now present to you.

In order to facilitate localization of the findings obtained by cysto-urethroscopy, it is expedient to divide up the posterior urethra in an arbitrary way, taking certain well defined landmarks, such as the *annulus urethralis* or margin of the internal sphincter of the bladder and the *colliculus seminalis* (Verumontanum) in determining the extent of each portion. The subdivisions that I have found most useful in practice, are the following:

The *sphincteric margin,* with superior (roof), inferior (floor) and lateral portions (sides); the *pars prostatica* and the *pars membranacea.*

We divide the prostatic urethra into:

A. Supramontane portion between the sphincteric margin and colliculus, with a roof, lateral walls (sides) and floor.

B. Montane portion with a roof, sides, and floor.

The floor of the supramontane portion shows the fossula prostatica, and the floor of the montane portion contains the colliculus (urethral crest), and lateral furrows (sulci laterales). If we regard the complete ridge or verumontanum as the urethral crest, or crista urethralis, it seems best for topographical reasons to distinguish the following parts. Posteriorly (towards the bladder) there are frequently a number of small bands that lie in the fossula prostatica and pass into the crista urethralis. These may be called posterior frenula. They belong both to the supramontane portion and to the montane. The crista shows a posterior gradual inclination (crista posterior) or *declive,* a central prominence, or *summit* and an anterior distal slope, the *acclive.* We shall drop the term urethral crest and speak only of a colliculus showing a summit, acclive (anterior crista) and declive (posterior crista). The valleys on either side of the colliculus are the sulci laterales. The membranous urethra receives the terminating fold of the acclive and anterior crista, and also has a roof, side walls and a floor.

A frequent site of pathological changes is the region of the internal sphincter and distal part of the trigone. The cystoscope hardly gives an adequate view and it is our practice to employ the cysto-urethroscope for a study of this region. Disease of the neck of the bladder, in the form of the so-called *cystitis colli,* give a remarkable and characteristic picture. Papillomata at the margin of the vesical sphincter will at times escape our observation altogether if the cystoscope only be used. The sphincteric margin and beginning of the supramontane urethra are favorite sites of that proliferative condition of the mucous membrane that we may designate as urethritis proliferans or bulbous hypertrophy. Beginning at the sphincteric margin and extending for varying distances into the posterior urethra, we find hypertrophic folds of velvety mucous membrane, with bulbous vesical knobs, the nodular thickenings resembling cysts closely. The most common site for this condition of the mucous membrane is at the roof and lateral walls of the sphincteric margin.

In the routine examination of some 300* cases, cysts were encountered in about twenty-five instances. Although all the patients had had one or more attacks of gonorrhea, I gained the strong impression that there were two types of cystic disease of the neck of the bladder and posterior urethra. The first and most common of these is undoubtedly an inflammatory process, the end result of a gonorrheal inflammation, and the second presents itself in the form of simple lesions of retention, such as belong to the involution of the senile period. The inflammatory type (namely, those cysts that belong to true *urethritis chronica cystica*), are most frequently found in the pars supramontana, although they are often seen in the montane portion and may even involves the colliculus itself. The verumontanum was found markedly diseased in two of the patients. The cysts very considerably in size, the smallest measuring about a millimeter in diameter, the larger ones 3, 4 and 5 millimeters or more. At times we meet with a confluent form that may take on larger dimensions. The simple discrete variety is the most common, tiny hemispheres with a slight tendency to become oval, occurring frequently near the sphincter margin. The surface seems to be made

* Buerger, *American Journal of Surgery,* May, 1910; *New York Medical Journal,* December 3, 1910.

* Dispensary and private cases treated during the past year make up the list.

up of pearly veil-like membrane, in which very fine aborescent vessels ramify. The mucous membrane upon which they lie, or more properly in which they are imbedded, is usually found to be thickened and velvety, but the fine vessels of the cyst usually become lost, as they are traced into the neighboring mucous membrane. In the region of the pars supramontana, the larger more sessile, less striking oval cysts were more frequently encountered lying on either side of the colliculus at the junction of the supramontane and montane region. These are more apt to be solitary, although at times a larger oval cyst may be surrounded by smaller satellites.

The more severe type of lesion presented itself in three cases and could be regarded as of sufficient magnitude to warrant the appellative *urethritis chronica cystica.* A striking instance was afforded by a patient in whom the confluent large type of cysts was encountered. Here the roof (Fig. 2) and sides (Fig. 1) of

Fig. 1.—Cysts in the right margin of the internal sphincter.

Fig. 2.—Cysts in the roof of the internal sphincter.

the sphincteric margin were converted into a mass of grape-like bodies, some composed of tiny cystic patches, others being larger and lobulated. The latter may be bilocular, trilocular or somewhat sausage-shaped cysts. All of these had the typical pearly surface, with large aborescent vessels which could be traced here and there into surrounding mucous membrane.

In cases of chronic prostatitis evidences of previous involvement are often to be recognized in pathological changes both in the colliculus and in the lateral sulci. Thus distortion of the verumontanum, polyp-like excrescences on its surface, scars, veritable holes the result of perforation of prostatic abcesses, are a few of the many findings.

Changes in the prostatic ducts, scars in the lateral sulci, papillomata (Fig 3), and many

Fig. 3. — Papilloma next to and arising from the foot of the verumontanum.

other lesions, are seen in the montane portion of the posterior urethra.

The cysto-urethroscope offers us material aid in the diagnosis of hypertrophy of the prostate. The slightest degrees of enlargement of the middle or lateral lobes (insofar as they produce endourethral changes) can be detected. In urethral fistulæ an exact anatomical estimation of the condition is possible.

What with the advances made in the use of the cystoscope, and what with the development of the most recent methods of diagnosticating and treating lesions of the posterior urethra and neck of the bladder, we are to-day in possession of an armamentarium whose value and field of application should be recognized not only by the specialist but also by every medical man.

STUDIES ON A LOCAL HAEMATOLOGIC FACTOR IN THE CAUSATION OF UTERINE HEMORRHAGE.*

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As "terminology dominates our concept" the terms menorrhagia and metrorrhagia will be discarded as devoid of relative significance in the present communication.

Every menorrhagia is obviously a metrorrhagia, the same cause may be productive of excessive menstruation, of intermenstrual hemorrhage or both: The menorrhagia frequently merging into metrorrhagia, making a clinical distinction between them impracticable.

Uterine hemorrhage presents itself under two categories. In the first of these, an examination of the patient reveals cause for the abnormal bleeding, while in the second, no such cause is in evidence.

* Read at the Annual Meeting of the Medical Society of the State of New York, at Albany, April 18, 1911.

The first category embraces the routine local and systemic concomitants of uterine hemorrhage, *i. e.*, the gynecopathic, circulatory and hæmatopathic abnormalities, too familiar to justify enumeration here.

The second category reveals those cases occurring at the two extremes of menstrual life, namely, the adolescent and preclimacteric periods, in which no palpable cause for the excessive or protracted bleeding from the uterus can be elicited.

This latter type, which forms the basis of the present study, is a subject of much speculative controversy and the theme of a voluminous literature, in which various histologic abnormalities, involving the muscular, the fibrous, the vascular or the glandular elements of the uterus are depicted as explanatory of the hemorrhage.

Conspicuous for plausibility among these contributions, the investigations of Theilhaber on muscular deficiency of the uterus, developmental and acquired—named by him "hypoplasia muscularis uteri" and "myofibrosis uteri," respectively—should find special mention here, as embodying a probable contributory factor in the causation of the hemorrhage.

Notwithstanding the convincing plausibility of Theilhaber's deductions however, this "muscular deficiency" of the uterus, like "uterine arteriosclerosis," etc., fails to exhibit that uniform regularity of association with uterine hemorrhage, essential to establish the relationship of cause and effect, for, the great majority of the muscularly deficient pubescent uteri, as well as those presenting fibrotic and arteriosclerotic changes at the menopause, do *not* bleed excessively under otherwise normal conditions.

This clinical disparity, in the relationship between the structural abnormalities depicted and the occurrence of the bleeding, stands in striking contrast to the regularity in manifestation of one significant feature, typical of the hemorrhage under consideration, namely, the *absence of coagulation* in the blood from the uterine cavity.

Coagulation is nature's hæmostatic, and every rational therapeutic effort in the control of hemorrhage is based upon its induction.

Incoagulability under normal conditions is characteristic of menstrual blood and two questions present themselves: What induces this normal incoagulability and in how far does this phenomenon, normal to menstruation, stand in etiologic relationship to the hemorrhage.

The hitherto accepted theory, attributing the absence of clotting in menstrual blood to the presence of viscid *alkaline mucus,* secreted by the cervical glands, is no longer tenable, for no such admixture inhibits coagulation in other coagulable fluids of the body and we turn to those facts established by modern research on coagulation in general, for elucidation of our special topic.

Accordingly, we find that coagulation represents the end result of a biochemic interaction, between certain elements present in the circulating blood and a ferment derived from the tissues at a point of solution in their continuity.

The essential elements are, fibrinogen, a constituent of the plasma and fibrin ferment.

Fibrin ferment is the result of a combination of two antecedents, namely, thrombogen and thrombokinase.

Thrombogen probably exists as such in the plasma, while the thrombokinase, generally considered the activating principle in coagulation, is found in nucleated blood platelets and most parenchymatous tissues.

This thrombokinase, once liberated, combines with the thrombogen in the plasma to form the fibrin ferment, which fully formed ferment, in the presence of calciumions, converts the liquid fibrinogen of the circulating blood into the fibrinous meshwork of the clot.

It is obvious, that the active, fully formed fibrin ferment cannot be present as such in the circulating blood; nevertheless after coagulation is completed, an excess of this substance is invariably found in the coagulum and serum, where its continued activity is checked by an inhibiting substance termed "antifibrin," the existence of which was demonstrated by Mellanby, Morawitz, Jorsen and others.

But for the provision of this antiferment, coagulation once induced, must necessarily extend to the last drop of our circulating blood.

On the other hand, were it not that the fibrinogen exercises a much greater avidity for fibrin ferment than for the antiferment, coagulation would never take place.

Such being the accepted essentials to normal coagulation, what deviation among these essentials is responsible for the loss of coagulability in menstrual blood?

Before entering upon this problem, it is necessary to determine whether the absence of coagulation in menstrual blood, is simply the outward manifestation of a similar state in the general circulation during the menstrual period, or a strictly local uterine phenomenon: in other words, is the blood noncoagulable before it reaches the uterus or does it become so during its uterine transit?

The conclusions of investigators upon this point are widely divergent, thus, Birnbaum and Osten claim that coagulation is impaired in the systemic as well as in the menstrual blood during menstruation, and that this impairment is due to a diminished ferment production.

Shittenholm and Lutter corroborate these findings and suggest the probable influence of some inhibiting body in explanation.

Bell of London confirms the impairment of the general and local coagulability during the menstrual cycle, but attributes this as well as

the entire menstrual function to a periodic fluctuation in calcium metabolism.

Opposed to these stand Cristæ and Denk, who in a recent publication assert that none of the deductions quoted can be accepted; they pointedly criticize the existing discrepancies in the noted coagulation period of the reported observations, and demonstrated conclusively by the method of Wright, that the general circulating blood shows *no* perceptible retardation of coagulation during the menstrual period.

To circumvent the possibility of error on this point in our own study, only such cases were utilized, as, tested by the Wright method, presented a normal coagulation index in the general circulating blood during menstrual and other forms of uterine bleeding.

Furthermore, in these cases, the blood flowing from an experimental puncture or surgical incision of the cervical tissue external to the endometrical zone promptly clotted, while the simultaneous menstrual or hemorrhagic blood from the interior of the uterus failed to coagulate, thus demonstrating conclusively, that *the endometrium* received normally coagulated blood and gave vent to this blood in a noncoagulable state.

This local loss of coagulability can be explained in one of two ways: First, by attributing a dialytic function to the endometrium, as a result of which, some element essential to coagulation is filtered from the normal blood. The second explanation assumes the existence in the menstrual blood of an inhibiting substance generated in loco.

Cristæ and Denk exploit the dialytic theory as follows: "The characteristic property of rendering the menstrual blood noncoagulable, is possessed by the uterine mucosa, *which withholds and thus renders inactive* the fibrin ferment or one of its elements."

Notwithstanding this assertion, these authors prove conclusively by their recorded investigations, that neither calcium, fibrinogen or ferment are notably absent; that the artificial incorporation of these elements into the menstrual blood does *not* induce clotting and that consequently the *endometrium does not withhold* any of the known essentials to coagulation.

The application of this dialytic theory obviously implies that the menstrual blood is minus some essential to clotting, and it suggests itself, that the artificial restitution of the minus component should restore coagulability.

For instance, it has been established that the fluid secreted by the serous membranes possess all the essentials to coagulation except kinase, the simple addition of which induces prompt coagulation.

Without entering further into these and associated arguments, the obvious incongruities already depicted, contrasted with the results of observations to be submitted, prompt us to reject the dialytic theory and attribute the inhibition of the coagulative process in menstrual blood, *to the presence of an inhibiting substance generated in the endometrium.*

Many substances are known, that possess the property of inhibiting coagulation; some of these are of experimental importance only, others of clinical significance, most of them, however, illuminate some phase in the study of the coagulative process.

We have thus learned, that the citrates, oxalates and fluorides check coagulation by precipitating the calcium of the blood.

Hirudin illustrates how infinitesimal is the necessary proportion of an inhibiting substance, one part of this leech extract being capable of inhibiting coagulation in seven thousand times its weight of blood.

Morowitz and Bierich have shown that bile circulating in the blood creates a toxin which antagonizes thrombokinase and thus explains the hemorrhagic tendency of icteric patients.

Delezenne, in 1898, discovered that peptone after passing through the hepatic circulation generates an inhibiting substance, which not only renders the blood incoagulable, but is capable of inhibiting coagulation in other blood with which this is brought into contact.

These few facts out of the many, while pertaining to the circulating blood in general and not specifically to the menstrual blood, will suffice to show the diversity in the nature, origin and mode of action manifested by these inhibiting substances.

Cristæ and Denk, in the publication already referred to, reject the possibility of such inhibition, basing their contention upon the results of two experiments, in one of which six drops of menstrual blood and in the other a filtrate of endometrial tissue, failed to inhibit coagulation in one drop of normal blood taken from the finger tip and placed upon a glass slide.

They assert that, an inhibitory body in menstrual blood, should prevent coagulation in normal blood, which it not only failed to do in the above experiment but accelerated the process.

These conclusions are erroneous and based upon misleading premises, a closer scrutiny of the process involved exposing the source of error.

In the earlier parts of this study, the phases of the coagulative process were outlined to the point of fibrin formation and now it becomes necessary to emphasize, what would seem obvious, namely, that fibrin formation and coagulation are neither synonymous phases nor synchronous occurrences.

The process of fibrin formation in normal blood is practically *instantaneous,* while the clotting is a subsequent event resulting from the contraction of the formed fibrin.

The significance of this observation becomes apparent when it is recalled that none of the many substances known to possess inhibitory

power upon coagulation, that properly fall within the scope of our study, *exhibit that power* in the presence of *formed fibrin* and it should be borne in mind, that our modern means for the registration of coagulation cannot take cognizance of the moment of fibrin formation, but only of the interval elapsing between such fibrin formation and the early physical evidence of its resultant contraction.

Defined along these narrower lines, inhibition of coagulation means the prevention of fibrin formation and not the prevention of fibrin contraction; it thus becomes evident, that in Cristæ and Denk's experiment, the coagulation that took place in the drop of normal blood upon the glass slide, does *not* prove the absence of an inhibitor in the added menstrual blood, because that drop of normal blood already contained formed fibrin.

The same applies to the filtrate of endometrial tissue utilized in the above experiments, for both filtrate and menstrual blood simply represented different vehicles under identical conditions, for the same substance.

Melanby has found, that by increasing the fibrinogen content of normal blood he retarded the coagulation period and conversely, diminishing the fibrinogen, accelerated coagulation; this apparently paradoxical fact, casts a significant side light on the acceleration noted in Cristæ and Denk's observations.

The negative evidence thus far evolved, of the existence of an inhibiting element in menstrual blood, is corroborated by experimental and clinical manifestations, all of which tend to point to the same element, probably augmented in activity by pathological concomitants, as the direct causative factor in the production of hemorrhage from hypoplastic and myofibrotic uteri.

The difficulties encountered in the experimental proof of our contention, embody technical problems of a most intricate and complicated nature.

In the first place, sufficiently large quantities of blood must be utilized and the elements of dessication and congellation excluded: This involves questions of corrected temperature, pressure, the conformation and surface of the receptacle into which the blood is received, etc.

The normal or test blood on the other hand must be taken from the same individual in what may be termed its nascent state, that is, *before fibrin formation has occurred,* which is accomplished by adapting the newer methods utilized in direct blood transfusion.

These methods prevent the formation of fibrin by enabling the circulating blood to circumvent the ferment producing lesion in the vessel wall. the resulting ferment deficiency being corrected by an artificial incorporation of the blood thus drawn, with the residual serum of a fresh clot from the same individual, which as already stated above, always contains free ferment.

Without entering into details of experimental minutiæ, these bare outlines expose intricacies in our problem sufficient to show that it is not to be solved by mixing a few drops of menstrual blood with a drop of normal blood on a glass slide, and it must suffice here to state, that by the methods indicated, obviating as far as possible the sources of error depicted, menstrual blood will be found to possess a positive inhibiting power upon the coagulative process in the normal circulating blood from the same individual.

Every clinical manifestation represents a normal function in perverted form and in the present study this is manifested in the hemorrhagic forms of uterine hypoplasia and myofibrosis already referred to.

In these cases, the routine curettage not only fails to control the hemorrhage, but augments it in proportion to the thoroughness with which this procedure lacerates the subendometrical blood vessels; while exposure of the uterine cavity by an explorative section of its anterior wall, affords the ocular demonstration of the inhibitive phenomenon in vivo.

Our meagre hæmatopathic knowledge and very limited understanding of menstrual physiology, permit of only a conjectural suggestion as to the nature, source and activating influences of the inhibiting element under discussion.

We have already called attention to "antifibrin" as a substance which has been demonstrated to check coagulation under normal conditions by inhibiting the formed fibrin ferment.

Conradi in 1902 published the results of experiments, in which coagulation inhibiting substances of unknown nature, which he named "antithrombins," were generated in the aseptic autolysis of organs.

These substances differ from antifibrin in their stability under high temperature.

Histologically, the bleeding endometrium presents those very conditions recognized as conducive to the generation of both antifibrin and antithrombin, the blood escaping into the uterine cavity not merely by a rupture of the subendometrial capillaries as generally supposed, but for the most part by an autolytic distintegration of the capillary wall.

The results of recent investigations make it very probable that this autolytic disintegration of the subendometrial capillaries during menstruation is activated by an internal secretion of the corpus luteum, for it has been demonstrated by Loeb, Fraenkel and others that certain phases in the developmental cycle of this body regularly initiate concomitant morphological changes in the endometrium.

On the other hand, the frequent persistence of the preclimacteric hemorrhage after complete oöphorectomy; the uterine hemorrhages of hyperthyroidism; the enlarged thyroid observed in the pubescent menstrual bleeders and in preg-

nancy; the amenorrhrea of Cretinism, all these, added to the anatomic continuity existing between the thyroid and the uterus in certain lower forms of animal life, point significantly to some form of vicarious biochemic relation, between this ductless gland and the ovaries, in the initiation of endometrial activity.

Whatever future investigation may reveal as to the exact nature and mechanism of the inhibitory element in question, the facts established by the present study may be summarized as follows:

1. The general circulating blood during the menstrual period and in the hemorrhagic conditions here considered, shows normal coagulative properties.

2. During menstruation and such hemorrhage the endometrium receives normally coagulable blood from the general circulation and gives vent to this blood in a noncoagulable state.

3. The noncoagulability in the menstrual and hemorrhagic blood, discloses an identity in experimental and clinical manifestations, differing only in degree.

4. Under the given conditions the endomettrium exercises a function capable of rendering coagulable blood noncoagulable.

5. This function is due to the presence of an inhibiting substance generated in loco and is not the result of a dialytic process, as suggested by Cristæ and Denk.

6. The noncoagulable blood contains all of the essentials to coagulation, nevertheless, this blood is capable of inhibiting coagulation in normal blood taken from the same individual. All of which tend to warrant the assumption that the inhibitive element preventing coagulation in the menstrual blood, probably augmented in activity by contributory structural abnormalities, presents a local causative factor in the production of uterine hemorrhage.

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ESSAY ON MAN.*

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ALEXANDER POPE said: "The proper study of mankind is man." One may add: "also the most fascinating."

So at the outset in looking at this absorbing topic it is well to ask ourselves a definition of our subject.

So many definitions have been given that it is confusing. In fact one can give a definition according to the viewpoint one takes.

Definitions can be written by the anatomist, scientist, theologist, philosopher or what not.

The cynic who said: "Man is a painful wart on the heel of time," might have been the victim of an ulcerating molar, or chronic dyspepsia.

Yet under all the cynicism there is a grain of truth in the utterance, when we recall the perversity and stupidity of the race, and man's inhumanity to man. But one touch of nature makes the whole world kin, and when we consider the milk of kindness that flows through the human breast, we are forced to say that when all is considered, man is entitled to be defined by one who has dined well, and whose gastric and molar functions are normal.

When we search the pages of history and science and read the long story of the struggle man has had through the dark ages, with cold and flood, famine and pestilence, ignorance and folly, the beasts of the forest, the wrath of the elements, the ubiquitous germ, and worst of all, himself. When we consider this battle has been waged over a period of millions of years, and man has conquered, and here to prove it, we must say the story is stranger than any fiction, or grander than any song the poets sang.

The Darwinian school tells us man was not created de novo. That he descended from a single cell of microscopic size an inconceivable long time ago.

This will not militate against the Bible version that "God created man in His own image." Indeed the Bible strengthens the evolutionary theory.

God could have created man in His own image, taking ages to do it, as well as doing it in one stroke in a second. The former method seems the more reasonable.

Scientists are now pretty well agreed that all animal and vegetable life is the result of evolution.

Let us briefly look at the origin of man, his life history, his present state, and then peep into the future.

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* Read before the Medical Society of the County of Ulster, Tuesday, February 7, 1911.

If one wants to properly rear a child, one should commence with the child's grandparents.

So let us begin with man's original grandparent, a single cell say one one-hundredth of an inch in diameter, which lived, let us assume, two hundred million years ago, in the sea.

This cell was akin to the amoeba we now know, that has all the essentials of life, namely, growth, nutrition, locomotion and reproduction. This single grandparent cell has evolved and descended through the long catalogue of animal life, through a process of heredity, variation and natural selection, to the present complex and grand, but imperfect and unfinished man state.

In doing this untold ages have been reeled off, a few struggles of divers kinds have taken place, numberless species have been lost in the scrimmage, and all history written and unwritten has been made.

Absurd, you say. It looks so. But we must be careful. It is so easy to be wrong.

Columbus was absurd when he said: "The earth was round;" Galileo was absurd when he said: "the earth moved." Galen was too silly to be taken seriously when he said: "The arteries contained blood and not spirits."

Jesus Christ was crucified when He said: "Love your brother as yourself."

Abraham Lincoln was ridiculed and damned when he said: "No man is good enough to govern another without his consent." Jenner, McDowell, Wendell Phillips, Jeremiah and John the Baptist were all absurdly crazy. These men and their ideas were all absurd to the majority, and history has amply proven that majorities are mostly wrong.

The world's greatest fools have turned out to be the world's greatest pathfinders. I sometimes sympathize with the fool, because after all maybe he is right and I am wrong.

When we recall that every human being in the brief period of its fœtal life passes through the same cycle that it took man ages to evolve from, the proposition does not seem quite so ridiculous.

Does not the process in every case start from a single cell to be fertilized by another cell? (The Protozoa.) This in turn divides and subdivides until two layers of cells are formed. (The Cœlenterata.) Division goes on till the third layer is formed. (The Ctœnophora.) Growth progresses, the water animal stage with fish gills, and rudimentary vertebra up to man.

The argument does not stop here. The young child is so like the savage. The lack of morals, the fear of the dark, and the bugaboo, the joy of a bauble and the simpleness of mind.

"Lo! the poor Indian whose untutored mind sees God in cloud and hears Him in wind. His soul, proud science never taught to stray as far as the solar walk or milky way."

The more we study and marvel at this the more the absurdity fades away.

Tell me, I pray you, why an infant at birth has abnormal strength in hands and arms, and can support its own weight by hanging. As this function is not necessary now as babies are so universally carried in arms, does it not prove that this abnormal strength is a relic handed down from prehistoric babies who needed this strength in hands and arms to cling to their mothers, as they sprang from tree to tree, or dashed through the forest from an enemy

The babies that could cling to their mothers survived; those who fell, perished. It is only another proof of the law of natural selection.

Again a baby at play will eat a gaudy caterpillar with as much gusto as our savage forefathers did. The rose with all its beauty and fragrance is the child of the simple wild rose.

Our luscious apples and pears had progenitors that would make a baboon wince to eat.

The dog, man's most trusted friend, is the grandchild of the wolf, one of man's greatest enemies.

Even our kindest humanitarians had ancestors not many thousands of years ago, who would, if hungry, club or spear his mother-in-law, and eat her cooked or not with as much relish as our present day trust magnates would disintegrate a rival.

Three hundred years ago every soul in Europe believed in witchcraft, and nine million people were sacrificed on the altar of superstition. One day a German doctor had the hardihood to say, "there were no witches." Now only the most ignorant and degraded believe in this delusion.

Coming down to our own times, the idea that a crafty and unprincipled man was entitled to all he could extract and keep from his more simple and honest brothers was universal. Now some are commencing to ask if that idea isn't a little out of joint.

Or tell me why our bodies are covered with a rudimentary hair? Or tell me why we have small muscles attached to our ears that have so far degenerated that we have lost the power to use them? Or why our palmaris longus is disappearing? Or why we possess a pineal gland—a rudimentary third eye, such as some of the reptilia have? Or why hair, feathers, scales, hoofs and nails are all appendages of the skin, and only modifications of the epidermis? Or why in cirrhosis of the liver some of the bile-duct cells revert to the embryonal type? Or what function the degenerate appendix vermiformis has other than to promote the surgeon and confound the rest of us?

Or why the underfed, badly housed, poorly clothed and crowded denizens of the slums the world over, tend to deteriorate in stature, become weaker in body, mentally defective, morally oblique and instinctively criminal, while

the well fed, properly clothed, fresh-aired tiller of the soil develops a sturdy body and a healthy mind?

Are not the anatomical, physiological and sociological facts signposts pointing out the trail over which we came?

Oh! evolution; we see it all around us, all life changes. If an animal or plant does not improve or advance, it degenerates and becomes extinct.

Man was not always a man, any more than the Modoc Indians used the X-rays, or the Fiji Islanders used direct primaries.

If man at one stage of his history had not reached the beast stage, he has now—at least some of us have—those lacking in gallantry to the gentler sex.

Man is a biped and walks erect—that is those who do not slouch and shamble through life. After all, how much a man is like his shoes.

For instance, both a soul may lose. Both may get left, both may be right, And, alas, alas, both may get tight.

The nearest relative man has is the anthropoid ape, between which there is little difference, save one of education and development, and at some indefinite period God endowed man with a soul.

The law of life has always been a struggle for an existence, and is yet, for witness the flotsam and jetsam which fail and perish. While the struggle is yet keen, and the weaker fall by the wayside, yet the pace has bettered.

The degenerate is simply a reversion to a primitive type, and is the milepost showing how all the rest of us have advanced.

Fancy life on this planet when fire was unknown. Man, too simple to know how to erect shelter, much less to protect his body from the elements. No law, nor order, no comforts. Everlasting struggle with enemies, beasts and man, cold and hunger. Every individual hunting his own prey. Living the life of a beast of the jungle, killing and eating, being killed and eaten. The weak at the mercy of the strong. Every man (and woman too) for themselves and the devil take the hindmost.

Woe to the sick or unwary. There were no aged. Calamity always overtook one before the advent of gray hairs or stiffened joints.

The strongest, quickest and fittest survived to perpetuate the race.

There was no community of interest. The sudden presence of an enemy would cause the whole community to flee. A tiger would cause a worse panic than a theatre fire or a bargain sale. It did not occur that two or more could unite to give battle. One day some wit ages ahead of his fellows (an embryo Edison) picked up a stone or fashioned a cudgel and used it as a weapon. Then the race took a long step forward.

Fancy how one discovery came after another, and how all our institutions had their birth in trifles.

The cries of pain, joy or fear were the birth of language.

Law had its origin in the crude rules of the game.

The birth of government was the physical prowess of some tyrant.

Religion from the superstitions, and the fear of the elements and the unknown. The healing art from the simple extraction of a splinter.

Art from the making of a few marks on a weapon.

Slowly, painfully he has learned from the most rudimentary of beginnings all that he now knows.

The discovery of fire, the use of weapons, community of interest, artificial raiment, and rude shelter, all came as the necessity for it was urgent and as the race improved.

Man had always been inquisitive. He has delved into the sciences, studied the heavens, dug into the bowels of the earth, and secured its treasures. Averted the lightning and used it. Girdled the globe with electricity. Enslaved the weak, degraded women, slaughtered the innocent, raped the helpless, murdered untold millions for religion's sake.

He has builded temples and cities, and then destroyed them. Devastated continents, tunneled mountains, remodeled the flowers, found out the composition of the stars. He has picked apart, analyzed and built up. He has wrested nature's secrets, harnessed the elements. Solved his origin. Discovered the cause of disease, robbed pain of its terrors. He has fought and died for the ballot in one century, and in the next sold it for one dollar and fifty cents cash.

He has made oceans of blood to throw off a yoke, and then meekly held his neck to have two put back. He is a paradox. He is a riddle. He is not so bad. He has lessened toil, made life worth living, and increased the sum of human happiness and postponed death.

We have journeyed a long road, but the journey is not finished.

We still have lunacy, crime, degeneration, poverty, ignorance, vice, bigotry, wars, all, all too much. We have not learned that the idler, drunkard, harlot and criminal are as much in need of treatment as the victim of diphtheria. We have become pedantic, but have not learned the A, B, C, of government. We still tolerate the boss and leave unhung the boodler.

In economics we are infants. Some day we will invent a scheme whereby we will utilize a Rockefeller's genius, and keep the $400,000,000 ourselves. Rewarding the genius amply.

We still worship as our greatest God, Mammon. Leading crazy, unhealthy, perverted lives to chase a will o' the wisp. We have not learned that life is not what we make it, and that happiness comes from within.

We set up false ideas, striving to outdo each other in trifles. A gewgaw pursuing, hurly burly set. We love the ostentatious and ignore the simple.

Save in a few instances we have not learned that co-operation is better than competition. But we will.

If man continues to live on this planet for ages to come he will not make it a millenium. That is reserved for the future. But he can and will make it better. He can and will abolish millionaires and paupers, two symptoms of a diseased society. He will construct a society whereby every individual who is able and willing to work, will receive a just reward for his toil, and not be taxed and sapped by a system of legal grafting.

He will make a world with more order and less chaos, more justice, less froth.

He will largely eliminate disease, child labor, crime, poverty, drudgery and injustice.

His mind will so broaden that he will accord his brother the right to think and act on matters of politics, religion and metaphysics as his conscience dictates.

A man will be judged for what he is, and not by how much he has got.

Man tries every possible wrong way to do a thing, before doing it the right way, and so through the long dark ages he has groped and stumbled, making mistakes, then advancing, going back, trying a new way. Fighting, dying, conquering. He is just commencing to see a new era, when justice and common sense will rule the world.

It has taken the beauty of a Cleopatra; the gluttony of an Epicurus; the honesty of a Washington; the debauchery of a DuBarry; the imagery of a Shakespeare; the bravery of a Nimrod; the sacrifice of a Nightingale; the daring of a Cabot; the wickedness of a Jezebel; the fiendishness of an Ivan; the faith of a St. Paul; the wealth of a Crœsus; the martyrdom of a Joan of Arc; the zeal of a Peter the Hermit; the teaching of a Pere Marquette; the love of a Lincoln to make this world.

The man who is content as he finds conditions is mentally ossified. The chief attribute of a Chinaman is content. Those who cannot see great changes coming in our social structure in the next few generations are without eyes.

A people get just as good government as they deserve, and because the majority of us are really stupid we allow a comparative few to monopolize the resources of nature, and just unmercifully skin us. But we don't deserve any better now. We are not educated up to any thing better yet. Would it not have been folly to have given the man of the stone age the ballot? Why, we have not even given woman the ballot, principally because she don't want it yet.

So if we give our coal, oil, forests, water powers and resources away, and presently we want to use them, and the one to whom we presented these gifts taxes us roundly for our folly we must not complain too bitterly, for we have not yet learned how to do it otherwise.

The Indian did the best he could with flint. How far ahead he was of the Pithecauthropus Erectus who shivered all winter because he did not know there was such a thing as fire. Some day there will be only one big trust. The individual manufacturer and shopkeeper will become as extinct as the chimney sweep or Dodo.

We must not be pessimistic when we read that every fifth person in London is the recipient of charity or that twenty thousand families are dispossessed every year in New York City for non-payment of rent, and that our reformatories, jails and asylums are overcrowded, and that misery and crime are seemingly on the increase.

To describe modern society beggers description so do not let us attempt it. These are some of the painful warts if you please, and demand resection.

Conditions will be better later on. Some muckrakers are abroad and will be as long as there is any muck, and there will always be muck until things are settled right.

Some reformers snap their fingers at the world's hostile opinion. Some men can't be bought. It isn't true that every man has his price. Some cranks (automobile and others) cannot be turned. Some crack brained dreamer like the embryo Edison who picked up the original club, is born. So let us be extravagantly optimistic.

The remorseless law of evolution that made the noble horse from the eohippus, and has made us brother-loving creatures ready to die for the right, from chattering apes is still at work, and will not stop at this incomplete stage.

Let us each do our duty as we see it. Everyday brings its problems to be met. Do not be afraid to say no when a negative is demanded. It sometimes takes more courage to say no than to charge Balaklava. If you think an institution wrong say so. If you think it better to change a custom, say so. Speak for the right. The world never advanced by the action of cowards.

As every organism is made up of countless cells, so society is made up of numerous individuals. If the cells are degenerate what will the organism be? If the individual is weak, derelict or unefficient, what will society be?

So let us advance, remembering that we are human and consequently imperfect. Let us not try to reform the world in a day. Let us profit from history, avoiding chimeras. Be careful and not get the cart before the horse.

Remember the world with all its warts is better now than it ever was before.

We no longer club or spear our mother-in-law

(although we suspicion a few degenerates would like to) for we have learned to love her.

Let us contribute every day our mite to the upbuilding of the race, when the Fatherhood of God and the brotherhood of man will rule the world.

CANCER.*

By WILLIAM B. JONES, M.D.,

ROCHESTER, N. Y.

A RECENT work says truly that the greatest hope for those afflicted with cancer now lies in earlier diagnosis and operation, but it also says that it is not probable that surgical skill will be able to devise more complete or successful measures than are now perfected; and before that could be issued from the publishers comes a message of most hopeful innovations that entirely changes the coming years for many.

Years ago cancer of the breast was so seldom cured that Gross declared he would never operate on another, that the operation was unjustifiable. Halsted and others so improved upon earlier methods that to-day a gratifying number are permanently cured and many more have no recurrence in the region of the original disease, their lives are prolonged in comfort and recurrences come among the viscera with a minimum of distress and disability.

Probably we shall never be able to do much if anything for malignant tumors of some organs, the brain, spinal cord, thoracic viscera, pancreas, spleen, kidneys and liver, but we *have* attained results equal to those of the treatment of breast cancer in nearly all of the intestinal tract and last of all uterine cancer. These have been brought about by applying the principles elaborated in the development of the work on the breast. Until they were established all operations were of very doubtful utility. Until they were applied to surgery of the stomach and intestines there was little hope of doing any good there and for a long time after the success of removal of mammary cancer with outlying glands had general recognition malignancy of the alimentary tract awaited the genius of Moynihan, Robson, the Mayos, and others to work out its surgical anatomy and apply those same principles there. It is conceded that cancer first extends by way of the lymphatics and the first thing to do was to complete the study of their anatomy, to learn just how each part delivered into them and where was the next point of slowing of the lymphatic current because these are the strategic points in which there is from the beginning of the disease a possibility of lurking foes who if not annihilated would, unsuspected, return and devastate after a seemingly successful operation. When anatomy of the lymphatics had been carried to that detail it was seen that former operations had been far less than what is necessary to remove these outlying secondary infections and new ones much more radical had to be contrived and tested out. That has been done. Enough time has elapsed to prove them and now we cure many patients with stomach and intestinal cancer and lengthen life and prevent much suffering in others.

Rectal cancer is probably the hardest of all to manipulate satisfactorily. It is low down in a locality greatly restricted by bony walls, very inaccessible both from above and below and the arrangement of the pelvic lymphatics requires thorough clearing out of nearly all the pelvic cavity. Human ingenuity has at last devised ways for doing this successfully and they are being tested now. It is much more thorough than the Kraske operation or any of its modifications and we hope to establish just as good results as in breast cancer. Results of work already done encourage us to hope that we can offer 50 per cent. or more of cures of rectal cancer.

Last of all has come the same progress in uterine cancer and the same relative improvement in results. A very few years ago The American Gynecological Society after free discussion passed a resolution that it was the opinion of the society that operation for uterine cancer is unjustifiable, except for palliation. A little later Baldy of Philadelphia, after exhaustive investigation, announced that by the most liberal construction not more than 5 per cent. were free from cancer after *three* years, and several surgeons had never seen one. How many of you know personally a woman who unquestionably had uterine cancer three or more years ago?

Gentlemen, I bring you the statement that of 183 women who were operated upon for this disease and recovered, 107 or 60 per cent. were well *five* years afterward. In addition to that instead of refusing 65 per cent. as inoperable, only 35 per cent. had to be turned away. The large proportion of cures, five year cures at that, is obtained after including the operations upon 35 per cent. who have heretofore been thought inoperable. In other words the number operated upon was doubled by attempting to cure as many from the hopelessly inoperable as all in which operation was previously considered justifiable. Cure was attempted for twice as many as could have been done before. Many of these severer cases recovered. The proportion of cures among early cases is higher than 60 per cent.

Just as a few worked out scientific operations for alimentary tract operations so a few devised measures for uterine cancer. Several added each a little. The perfected operation is accredited to Wertheim as much as to anyone. The principles upon which it is based are simple,

* Read before the Medical Society of the County of Steuben, at Bath, May 9, 1911.

but their application is complicated, in a region where manipulations are limited by lack of space and by the presence of many structures to which injury is at least a hindrance to the operator and added danger to the patient.

Thorough and accurate knowledge of the regional anatomy and well elaborated system in operating permit a surprisingly extensive removal of diseased and suspected tissue far beyond the usual bounds of surgical possibility without injury to the viscera, but among the cures are cases where it was necessary to resect portions of bladder, bowel or ureter, the latter with anastomosis, implantation into the bladder or even in a few, removal of a kidney.

The mortality is high, 10 per cent. with Wertheim, more of course for average results, but that is no deterrent to any one but the operator. Better that every one who is not cured could die of an operation before the conditions become wretched for patients and friends. There are worse things than death and the late stages of uterine cancer are among them. I fervently hope to be spared the affliction of cancer but if it comes my greatest hope will be for cure, failing that to die before my suffering and the loathesomeness of the disease become extreme.

The Wertheim operation removes much more tissue than any other. So much that even if cancer has spread into the broad ligiments, thickened and hardened them it divides them still farther out and sometimes cures. The vagina is removed well down to the introitus. Cancer extending down along the vagina is removed and often cured. Even if it has caused adhesions to bladder or intestine or induration toward the rectum cure will often occur because sometimes that adhesion and induration are not cancerous, but only inflammatory, but if they are, portions of these viscera are regularly removed if necessary. When the ureters pass through the cancer they can sometimes be freed and after opening their sheaths if they appear to be involved a portion can be removed and the ureter implanted into the bladder.

The operation severs first the tissues farthest from the growth and also by a special method of clamping the vagina before dividing keeps all the cancer and its discharges closed up in a sack all the time so that none of them are exposed to the raw surfaces for a moment. In these ways it gets all out when possible, and prevents sowing seeds of more cancer in the wound and these two are the only causes of recurrence in most cases, proven by the fact that recurrence of uterine cancer is nearly always in the region of the original tumor, portions not removed at the time of operation or cancer elements deposited during operation by the drippings from the cancer removed. Wertheim's operation prevents the first cause of these failures when possible, and the second always.

OPERATIONS FOR ADHERENT RETRO-DISPLACED UTERI BY SHORTENING THE ROUND LIGAMENTS THROUGH THE INGUINAL CANAL AFTER ABDOMINAL SECTION THROUGH THE TRANSVERSE INCISION.*

By LE ROY BROUN, M.D.,
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AFTER the abdomen has been opened for pelvic conditions the preference given by operators for retaining the retroverted uterus in an anterior position has been usually some intra-abdominal operation. The reason is evident—that of ease and rapidity.

The procedure comes as a final to all other work, hence the adoption of any method that can be quickly and easily done.

The intra-abdominal methods belong to two classes: the one made so popular by Kelly, of establishing adhesions between the fundus of the uterus and the abdominal wall, known as ventral suspension; the other—some varying modifications of shortening the slack in the round and broad ligaments, and at times of the utero sacral ligaments.

Since the publication in 1886 by Kelly of his paper on Hysterorrhaphy, and its extensive adoption by surgeons, complications as an after result of this procedure have been attracting attention.

In 1896, C. P. Noble presented before the American Gynecological Society, a paper in which he collected the complications occurring during the progress of pregnancy and during labor, with patients upon whom had been done at some previous time, a ventro-suspension.

Among the complications chiefly reported was the development and thinning out of that portion of the uterine wall, and at the same time a lifting of the cervix upward, until at times it would reach to the promontory of the sacrum.

Coincident with this development of the posterior wall of the uterus, the part anterior to the point of attachment had become thickened, constituting a fleshy tumor and interfering with delivery. A tendency also to transverse position is recognized, as would be expected.

Lynch, Associate in Obstetrics at Johns Hopkins in 1904, collected 21 cæsarian sections following ventral fixations and suspensions.

Cragin, in 1908, in an article before the American Gynecological Society, adds 4 cases to the 36 already reported, making a total of at least 40 patients who after a previous ventral suspension had become pregnant and required a cæsarian section for delivery.

One of the cases reported by Cragin is of especial interest, showing that a suspension can become at a later time, a fixation, and necessitate cæsarian section.

The case is as follows: Ventral suspension

* Read before the Medical Society of the State of New York, at Albany, April 18, 1911.

was carefully done in 1902. In 1903 the patient was delivered of a healthy child, following an easy, normal labor.

Five years later the patient again became pregnant. The cervix was high up posteriorly, and with difficulty reached. The child lay transversely. The anterior wall was thickened, the posterior wall was thinned; cæsarian section was necessary for the life of the patient. The suspending band had, in the interval between the two pregnancies, become thick and unyielding.

In the discussion following this paper, Whitridge Williams after stating his experience in complications following suspension for retroversion, stated "and as a result of that experience, all of us in Baltimore have practically abandoned ventro suspension."

Norris and Davis also stated that this operation should not be performed upon women during the child-bearing period.

The entire question is summed up in the knowledge that one cannot control the extent and character of the adhesions formed between the fundus and the abdominal wall. They may be thin and would not give rise to dystocia in connection with subsequent pregnancies, yet they may be extensive and firm, and cause by their unyielding character the gravest complications. This may arise from the extent and location of the attachment or from a possible suppuration. Such operations should be confined to women who have passed the menopause, or in those in whom pregnancy is impossible, on account of the removal of both of the adnexa.

During the child-bearing period, shortening of the round ligaments has become the accepted operation for retaining the uterus in a forward position, especially so in view of the distressing results in some instances following suspension, the possibility of which we cannot foretell.

The methods of shortening the round ligaments consist of either utilizing the thicker and stronger portion for the uterine support, or of folding the ligament on itself and attaching it to the uterus, either on its anterior face, or posteriorly through an opening in the broad ligament.

The operations giving the best results are those in which the strongest part of the ligament is utilized.

The Alexander operation, that of Gilliam, and also Simpson's all do this.

Fig 1.
Abdominal Wound. Pfannensteil Incision.

The Alexander operation, which is a great favorite with me, in suitable cases, has only a limited field of application.

It is with the greater class of cases, in which the abdomen should be opened, that we are chiefly concerned in this short communication.

Alexander's operation is not desirable in these cases, since it requires two new incisions over the external abdominal rings, and may lengthen considerably what may have already been a long operation.

For this reason the Gilliam operation has become popular. Its results are excellent, yet it is objectionable since it gives an abnormal attachment of the ligaments to the abdominal wall, and has been the cause, as reported, of intestinal obstruction by loops of intestine becoming at some later time, caught between the abdominal wall and that part of the ligament extending between the internal ring and its new attachment.

Reuben Peterson in 1906, presented a paper before the American Gynecological Society in which he described a method of shortening the round ligaments through the external abdominal ring, after completing an abdominal operation that was indicated.

This operation, with some slight modifications, has become so satisfactory in my hands that I have practically discarded other methods. It is for this reason, and the fact that it appears little known that I bring it before you.

The several steps of the operation, as I am in the habit of carrying out are:

A horizontal incision after the manner of Pfannensteil is made, but lower down in the area of the growth of the parts. The length of the cut need not be over two and a half inches long. The fascia is divided horizontally and dissected free from the muscle above and below. The recti and pyramidali are now separated, and the peritoneal cavity is entered. Through this opening in the abdomen adhesions can be severed, diseased tubes or the appendix can be removed, and all ordinary pathological conditions dealt with.

Having completed the necessary work in the

Fig 2.
Skin and Underlying Fat Retracted, Exposing the External Ring with Ligament. This after the Necessary Pelvic Work is Completed.

abdomen, and before closing the incision, the fat in one angle of the wound is dissected free from the fascia in the direction of, and up to the external abdominal ring which is easily located by palpating the pubic spine. This dissection is quickly done with a few snips of the scissors. The skin is now retracted beyond the ring which is readily exposed to view. The round ligament is grasped and withdrawn until the reflection of the peritoneum comes well in view; this is not stripped from the ligament. If preferred by the operator, the fascia can with advantage be split up for a short distance making the ready picking up of the ligament easier. The external abdominal ring of the opposite side is exposed in the same manner and the ligament is withdrawn, as in the corresponding side. Before anchoring the ligaments in a new position, it is my custom to retract the edges of the abdominal wound to be sure that no loops of intestines lie over the fundus of the uterus, which will be found to be uniformly in admirable position.

The ligaments are now stretched to the pillars of the ring with chromic catgut or silk as may be preferred, and the abdominal wound is closed.

While drawing out the ligament from the canal, I have found it of considerable practical value to use for that purpose clamps, in which the sharp edges of the serrations have been filed off, and the edges also rounded. If ordinary artery clamps are used the sharp teeth lacerate and cut through the ligament, occasioning much annoyance, and at times embarrassment.

A few old discarded clamps can be taken and with a flat file the sharp serrations can quickly be taken off and at the same time the edges rounded.

These will be found very useful for they will hold the ligament firmly, but do not cut through.

In dressing the wound after the completion of the operation full pressure should be applied over the site of the operation to secure close approximation of the separated parts.

Discussion.

Dr. H. P. Jack, Canisteo: For the last ten years I have been doing these various operations for retroflexion of the uterus. My own experi-

Fig. 3.
Ligament Withdrawn from External Ring.

ence with suspension of the uterus for ten years was absolutely good, and with no trouble following labors. In a few cases I have regretted doing the operation, so that I think it should be abandoned during the child-bearing period. But with reference to the operation which Dr. Broun has brought before us, I can see several objections which have occurred to me in the use of the Alexander-Adams operation. The ilio-inguinal nerve comes through the canal and is frequently injured and pressed upon in any shortening of the round ligaments, and it has been a frequent experience of mine, although I do not do this operation myself, to have seen a number of cases in which the women have suffered much pain in the inguinal canal, much more pain than they have suffered from the retroflexion of the uterus. For that reason, I think Dr. Charles H. Mayo has discarded the operation which he had brought out himself, and in which he shortened the ligaments through the inguinal canal by bringing a forceps down and dragging the ligaments through the canal. He has discarded that operation entirely, and now does the Noble operation of fastening the round ligament behind. In regard to the argument concerning a transverse pull, you get that. We are not looking for a pull directly forward. That operation he tells me has been very successful in his experience, but what I arose to say was a word or two with reference to the Gilliam operation. In my experience, after ten years with the Gilliam operation, I cannot commend it too highly. These women do not have pain afterwards, and with the modification that has now been made, which the essayist did not mention, of taking up the Peterson method, taking up the excess of peritoneum left between the ligature which drags the ligament through and the space here (indicating), you close one spot where the knuckle of intestine might slip through, and, it seems to me, you have reached then an ideal operation. I have had quite a number of these patients go through labor and their uteri are still in position, and I can honestly say that I am very much pleased with the Gilliam operation. I think it has all the advantages that the Peterson or the Broun operation has, and it is simpler of per-

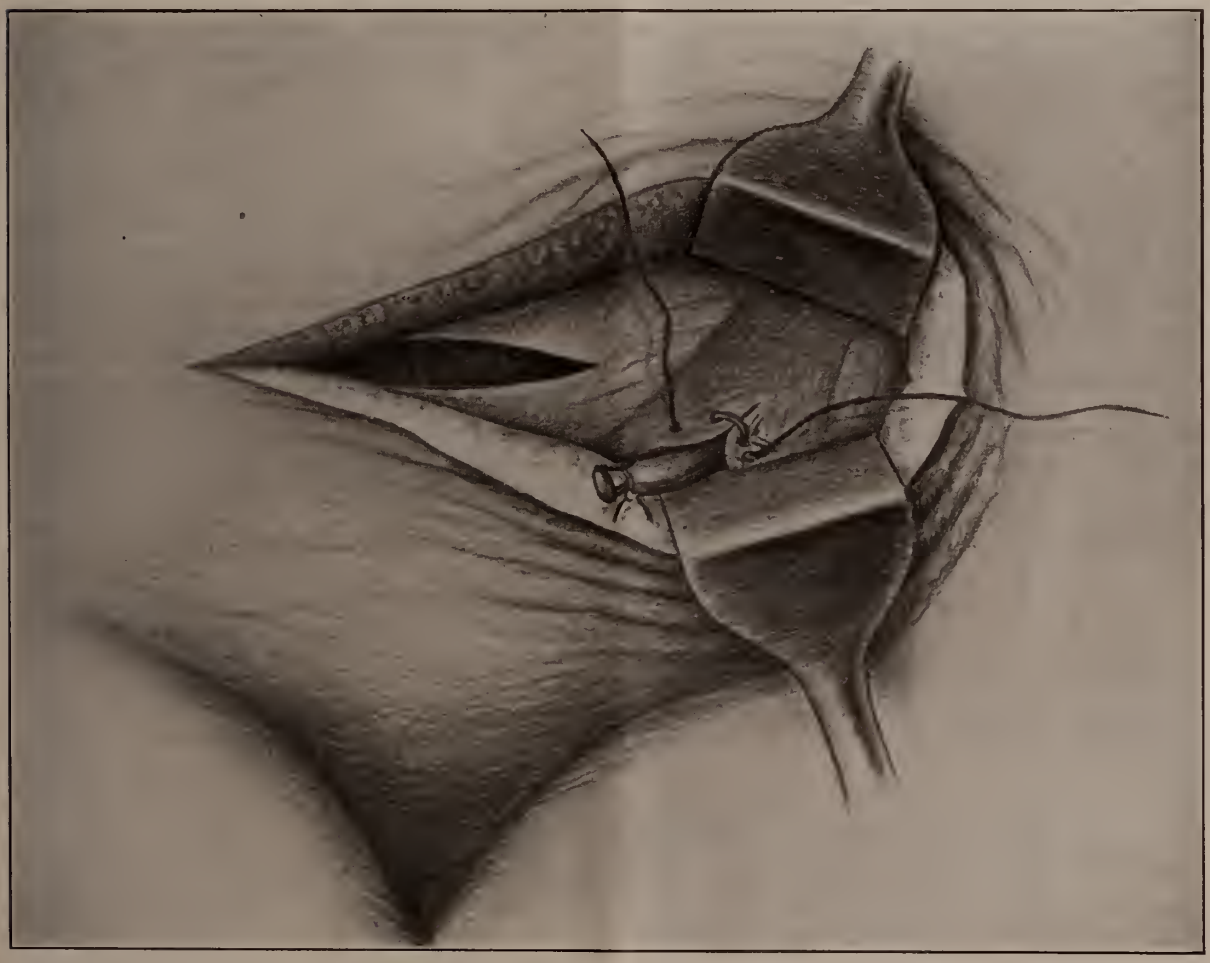

Fig. 4.
Ligament being Fastened to Pillars of External Ring.

formance, less liable to cause pain in the inguinal canal, and requires less dissection.

Dr. Broun (closing): I agree with Dr. Jack fully that if the genital branch of the genito-crural nerve is injured, there is, at times, neuralgia following the drawing of the round ligament through the external abdominal ring. But there is no reason why it should be injured. It is easily recognized. It is external to the ligament as it comes through the ring, and if care is taken it is not caught in the sutures, and there is no reason for injuring it. I am fond of the Gilliam operation, and employed it for years when I wanted to do suspension. Unquestionably it does give abnormal implantation of the round ligament and its peritoneum, and in my own experience, while I have in each instance attempted to put a suture between the internal ring and the new point of implantation, thus fastening a portion of the round ligament to the abdominal wall to prevent hernia. I can only suggest to Dr. Jack that he try this operation I have just presented, and if he does, he will be so pleased with the simplicity of it, with the excellent position of the uterus, and with the clinical results afterwards, that I am sure he will do just as I have done, adopt it exclusively.

Dr. H. P. Jack, Canisteo: I have adopted a modification of the Gilliam operation which I have never published, but I think it is a very important one, and that is to fasten the round ligament underneath the fascia instead of over the top. It is a simple matter. He brings it through the fascia, but I fasten it under, and you do not get the liability to hernia.

OLIVE OIL IN POST-OPERATIVE NAUSEA.*

By CLARENCE REGINALD HYDE, A.M., M.D.,
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THE use of olive oil to lessen and even control post-operative nausea has not merited the attention of surgeons that its success warrants. For over a year in my operative work, it has been employed after ether anesthesia, and with such positive results that I am confident more surgeons would make use of this simple method were they cognizant of its efficacy.

The technic is as follows: Just as the patient is beginning to return to consciousness (that is, roll the head from side to side, slowly open the eyes, and moan), two ounces of ordinary olive oil are administered by the mouth from a cup. The patient must be sufficiently out of the ether to understand the command to drink the oil, which is then swallowed without any difficulty. It is of interest to note that after regaining consciousness, the patient does not even recollect taking the oil. Usually within five minutes after the oil has been given there is free and copious vomiting, which in the large majority of cases, concludes the gastric disturbance. The vomited material consists of large amounts of ether-saturated mucus, free oil, and occasionally some bile. The nurse who gives the oil should be instructed to have at hand a basin and towels, and to remain by the bedside of the patient, as the vomiting which is initiated very soon after the ingestion of the oil is explosive and projectile in character. This precaution is imperative, as some patients will vomit with such a violent expulsive effort as to soil the floor for some distance around the bed. Rarely does a second vomiting attack occur, and within a short time the patient is resting comfortably, so far as the stomach is concerned, and free from nausea or retching. If the oil is not vomited, as sometimes happens, the same effect is obtained; the patient does not vomit. As to the theory, I can only surmise that the oil goes into solution with the ether-saturated mucus in the stomach, stimulating a marked and increasing peristaltic wave which terminates in the act of vomiting. The absolute success of the method depends on the correct time of administration. The oil *must* be given when the patient is semi-conscious and can understand the command "to drink." If given *before this particular time,* the patient cannot swallow. If given *after* the return to the conscious state, when the patient is then nauseated or vomiting, the oil will be refused, as the sufferer is too stomach sick, and will be made more so by the sight and odor of the oil. Both these exceptions were noted during our earlier experience. It is admitted that some ether subjects may not vomit or vomit but once and with nothing done to relieve their stomachs, but these are exceptions rather than the general rule.

The method insures a quick, rapid stomach cleansing usually terminating with this one performance, and is urged as a substitute for gastric lavage on the operating table before the patient is returned to the recovery room or bed. It is a fact well known to hospital surgeons that many ward patients who have experienced the distressing sequelæ of ether anesthesia are later violently nauseated by the sight of another patient recovering from the effects of ether. The disagreeable sound of the patient's continued attempts at retching, combined with the penetrating smell of the ether fumes many times nauseates the convalescent. The use of olive oil with its one vomiting act precludes any such repetition. It controls nausea and vomiting, thus easing the patient. It minimizes the pain which is increased by the effort of vomiting. It relieves the strain on the abdominal sutures and, most important, lessens the tension on intra-abdominal and other important ligated vessels.

The method has been tried out in over one hundred personal cases, and only in first few were any failures noted, due, as was afterwards recog-

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nized, to faulty time of giving. With the interested assistance of one nurse and the house surgeon the procedure, in my cases, has been so intelligently systematized that no failures have been reported for months. At this point I would like to state that as we cannot remain by the bedside of our patients till they begin to come out of the anesthetic, the giving of the oil must be intrusted to the nurse, to whom the most explicit directions should be given. An indifferent nurse may spoil the whole program, which means a continuance of the vomiting and no practical results gained. The many who have, at my suggestion, made use of the oil, have in most instances reported success, depending on whether their positive orders were faithfully executed. I am not aware that this use of olive oil has been employed in any other metropolitan hospital, nor is any originality claimed. I have demonstrated the idea before sections of students, showing them when to give the oil and giving them ocular evidence of the vomiting occurring within a few minutes after its ingestion. Not once has this demonstration failed. It has been employed after abdominal and vaginal hysterectomies, plastic cases, appendectomies, adnexal lesions of all kinds, minor cases, and after ether during labor. The nursing staff, unsolicited by me, has commented on the easy recovery of the oil cases as contrasted with the other surgical cases in which oil was not used.

Its very simplicity and ease of administration, and the positive results obtained, welcome it as an important adjunct to our post-operative treatment.

AUSCULTATION OF THE COUGH.*

By A. H. GARVIN, M.D.,
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Its Importance as a Diagnostic Procedure in Lung Tuberculosis.

THE determination of any single point as the most important point or procedure in the discovery of a pathological condition must depend upon how accurately and how exclusively the sign or the procedure reveals the condition, and to what extent its omission causes error in diagnosis.

The medical diagnosis of pulmonary tuberculosis is still limited to a certain few who devote their time almost exclusively to this work, and the reason for thus placing the final decision upon a certain few practitioners, seems to me to be due to the fact that emphasis has not been placed upon the cardinal point in lung diagnosis that the tuberculosis specialist uses to obtain information, and a sign or procedure that those who do not practice in tuberculosis fail to use, either because they do not know, or because they have forgotten.

The complaint of the specialist in tuberculosis against the general practitioner for his failure to make even a reasonable diagnosis is not a new one; it has existed from the very beginning of an attempt at a refinement in such a diagnosis, and this principally dates from Laennec and his special work in 1823, and has been followed by similar complaints from time to time by the occasional isolated and individual specialists who have appeared and have attained prominence in this particular field.

Austin Flint, completing a series of cases, occupying twenty years' work and ending in 1875; a series of what we would consider the relatively small number, 670, bewails the fact, although he was admittedly a famous teacher, of his inability, for some reason or other, a reason that he was not able to determine himself, to interest his students in cases of early tuberculosis, and to convey to them what he considered the fundamental sign that determined diagnosis of incipiency. He believed that the fault was in himself.

Various signs have been advocated as the principal diagnostic sign in early disease as being important above all others. These signs have been largely, changes in breathing, either in inspiratory or expiratory phase or both; changes in intensity, quality or pitch; an occasional emphasis upon the presence of diminished breathing at a small area; a percussion change, or an increased transmission of cardiac sounds, or some combination of the above, as the cardinal and most important sign or signs of beginning lung infiltration.

It is a wide agreement among most of the sporadic workers who have obtained exceptional attention through their ability to make diagnosis and to treat this class of cases, that the personal factor and that the education of the diagnostician was a most essential part of the ability to make a diagnosis, and these clinicians are rather inclined to give the impression that the information that they have the ability to get is something that required unusual attainment, a remarkably fine ear and long training which must be attained personally as they were all self-taught. As this has been the almost general conclusion to which the sporadic workers in tuberculosis have come, and the fact that the diagnosis of the general practitioner still is at fault by his inability to discover, even to a reasonable degree, the extent of a discoverable lung tuberculosis, makes me believe that the emphasis has been placed entirely upon the wrong thing.

Large numbers of observers that have passed before the clinical teachers of the past and have heard the presentation of their cases and the discussion of the reasons of the diagnosis, therefore, while undoubtedly, through the loyalty that one has always for one's teacher, have believed the lessons they have been taught and accepted the reasons laid down for early diagnosis, have naturally hesitated to make a diagnosis upon such slight evidence, ostensibly doubting their ability

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to do so, but naively, as any large number of observers must do, emphasize the truth by failing to place the emphasis upon the most important thing that is available to everybody to discover extent of lesion, and which was not the sign or the procedure recommended to them.

I wish to present auscultation of the cough to fill in this breach, to supply a physical procedure, that if properly applied in every case will determine the presence of clinical tuberculosis; will determine its physical extent and character more completely than any other method now generally used, and a procedure that is easily available to every practitioner without extensive equipment, that will present signs to his ear for his edition, and that will present signs that do not require extensive education, long training, special refinement of ear, and the other personal factors that have in the past been ascribed to explain unusual ability in localizing in this diagnosis.

I wish to present the sign from the standpoint of the description of the procedure; time in the respiratory cycle for its use; the things heard by its use, its development in the history of diagnosis, and an explanation of the physics of the phenomenon, that might account for the development of signs not heard without its aid, and for the reason that I believe it to be the most important single procedure in the process of direct physical examination of the patient, relative to localizing the tuberculous infiltration, if it is discoverable by physical signs. There is, of course, the silent area that is untouched by auscultation of any kind.

Daily experience repeatedly demonstrates that a chest, sign-free, or practically so, will reveal little or nothing on the most forced respiration in the way of adventitious signs; will develop abundant rales on cough in a localized tuberculous infiltration. It is an evident fact that showers of abundant fine rales are demonstrated by or after cough; that they occur long before infections or any secretion is manifest, and persist long after such secretion disappears. Localized rales developed on cough may be the chief basis for diagnosis in closed tuberculosis as the most demonstrable physical sign. The rales thus demonstrated are not due to any increase in normal or pathological secretion, as none exists, and the physical explanation of their presence with the assistance of cough and their absence without cough, has not been made, so far as I can determine.

The prominent point in the use of auscultated cough is its adaptability to a given patient. This adaptability in the examination of a new case is frequently not properly found in a single examination. After a second or third examination, the patient becomes an educated cougher. He coughs to please the examiner, or in such a way as to develop the signs to the best advantage for the examiner. The time in the respiratory cycle for the use of cough will vary in individual cases, to develop in them to the fullest extent the latent signs that can be brought to notice by this procedure.

The character and violence of the inspiratory effort with cough, will also vary. The violence of the artificial cough is another variable. One patient will be required to cough with gentleness, a slight hacking cough, repeated with little or no inspiratory or expiratory effort will develop numerous fine showery rales that compare in all respects to the typical crepitant rale, and that are absolutely absent unless this procedure is used to discover them. Another patient will be required to cough at the very end of expiration and cough rather vigorously and follow the cough by prompt and vigorous inspiration. The development of the proper kind of cough for auscultation in a particular case is a matter of judgment and experiment on the part of the examiner, and keen attention and prompt co-operation on the part of the patient. This co-operation on the part of the patient is usually promptly acquired and subsequent examinations by the same examiner occupy less time and less effort than the first examination, as is usual, because of the adaptability and the adjustment of these factors, which admittedly cannot be omitted. They are, however, factors of such a relatively slight importance that they do not exclude the proper and complete use of the sign for diagnosis in the hands of a physician who sees only an occasional case of tuberculosis.

The cough may be misused largely through a failure of co-operation between the patient and the physician during the examination. The blustering cough, the explosive cough so noisy that all adventitious signs are lost in the thunder that follows, the throat cough, the succession cough, without co-ordination in the use of inspiration and expiration, placing the cough at the proper period in the respiratory cycle. These are the usual instances of the efforts of first examination in chest work, and of such daily experience that their importance and adaptability to use in the localization and development of rales has not been properly made; at least in the text-books devoted to general diagnosis that are now widely available for common information, including the special books on the subject of tuberculosis.

Description of the Procedure.

The description of the procedure is as follows: The patient, with chest completely exposed, and with mouth properly guarded with a gauze handkerchief, is requested to breathe in and out, as he normally would, mouth being open. If no signs are heard, the patient is requested to take a forced inspiration and expiration, using, as far as possible, complemental and supplemental lung capacities, and then if no signs develop, is requested to cough at the end of ordinary expiration, and follow this with an ordinary prompt inspiration, varying the muscular effort at cough from a slight to a great effort, and finally, if no

rales are thus developed, the patient is directed to breathe out forcibly all the air he can possibly exhale, and to cough at the end of this respiratory effort. The cough thus requested, is a muscular effort of slight intensity, as the chest has already been compressed by the previous expiratory effort, but the cough at this point in the respiratory cycle will often yield signs that can be elicited no other way, and while the actual work done by this cough is slight, the disadvantage at which the patient is placed by being requested to cough after he has breathed out all the air that he can, actually makes the cough effort a considerable one.

Position of the Cough.

1. The positions of the cough in the respiratory cycle are four in number, with each one of the four positions in a sliding scale, depending upon the willingness and ability of the patient to co-operate. The first is at the beginning of inspiration, which also corresponds with the end of expiration, and is the most important one of the four. By moving the cough at the beginning of inspiration, or at the end of expiration as far as possible into the supplemental respiratory area, the cough yields relatively the largest wealth of signs. It is the one used in diagnosis.

2. The second position of the cough is its insertion at some place in the inspiratory phase of the respiratory cycle—the insertion of the cough at any point short of complete inspiration necessarily cuts short that inspiratory phase, and has to be followed by an expiratory phase of corresponding length. The cough by this second method is used extensively in moderately advanced cases and yields abundant information; calls for minimum effort on the part of the examiner and patient, and where useful indicates extreme infiltration.

3. The third point at which the cough may be used is at the zenith of the respiratory effort which also corresponds to the beginning of expiration, and is to be mentioned only as not to be used. It is usually the first thing that the patient does when requested to cough. He promptly fills his lungs as full as possible and starts off with a thunderous cough at the zenith of inspiration or the beginning of expiration and obscures some fine signs, if they exist, and fails to develop others that appear more readily on the respiratory effort following cough, rather than the continued expiratory effort after cough. It is the method that is promptly ruled out by changing the time of the cough.

4. The fourth method corresponds in some respects to the second method, and consists in placing the cough at some point in the expiratory phase where it finally is advanced and merges into method number 1, namely, at the beginning of inspiration or the very end of expiration. The nearer the cough is placed at the end of expiration, the more effective is the procedure.

To place the description of the cough at two arbitrary points, namely, at the highest inspiratory point, and the lowest expiratory point possible in the patient, is definite; to place it at any point in time in the inspiratory phase or in the expiratory phase, is relatively arbitrary and amounts to the same thing, as there is but one physiological way to cough, but these variables offer suggestions as to the possibilities that are numerous, in placing the cough in the respiratory cycle of any given patient that presents for diagnosis. As a matter of practice it is usually rapidly and satisfactorily accomplished.

The Things Heard.

I shall not describe the numerous signs that are aroused by cough in advanced cases with antrum formation. The thing of interest is the slight parenchymatous infiltration. The procedure gives no information in root gland tuberculosis. The things heard with the use of cough that were not heard before, are the clearance of fleeting atelectatic rales that disappear promptly and remain disappeared, are few in number and variable in location; mostly heard in the axillary regions. The appearance of breathing after cough in an area of diminished breathing, and lastly and most important, the appearance of abundant fine showery crackling rales, which increase in size and moisture and variable number with the increase in severity of the lung inflammation. They will exist where there is no other demonstrable sign in the chest obtainable by inspection, palpation, percussion and ordinary auscultation of the breath, voice and whisper.

Physical Explanation of the Phenomenon.

The physical explanation of the phenomenon depends upon the change that occurs in the chest during and after cough. The physical signs are not present when the mechanical apparatus to render perfect cough is out of order; as in a paralytic larynx, or a larynx that has been destroyed by disease, and in these cases it is extremely difficult to render an opinion by physical examination, as to the extent and character of the lung disease within the chest, provided the disease is not grossly destructive. The phenomenon of the sudden appearance of rales with or after cough is due to a variation in intrapulmonary air pressure. During cough the glottis is closed. The intrapulmonary pressure is raised to a variable degree and lowered by the relaxation at the glottis, and by the expiratory effort, slight or great, that follows. The normal physiological variation in air pressure can be readily determined by the monometer method for inspiration and expiration and the variation caused by cough has been repeatedly experimentally determined.

The ordinary diagnostic cough as is used in chest work increases the intrapulmonary pressure 4 to 10 millimeters of mercury above that of ordinary expiration. The prolonged and severe succession cough that occurs in antrum cases, and

in cases that can be classed as antrum, such as bronchiectasis, where a prolonged succession of coughs occur, the pressure is raised 60 or 70 millimeters of mercury. It is, however, impossible to examine a patient during such a succession cough, and the variation in intrapulmonary pressure that thus comes about is of no use in diagnosis.

The ordinary diagnostic cough raises the intrapulmonary pressure 3 to 10 mm. A sudden positive pressure of this extent that is supplied by cough is sufficient to cause the appearance of showery rales, when used in conjunction with the special respiratory effort in a given case, and signs are developed by it that otherwise will not appear.

The failure to use cough in pulmonary diagnosis is the chief reason for failure to localize. It is a common experience to see a patient with moderately advanced infiltration covering the extent of a lobe of one lung, with positive sputum, and with no characteristic localizing signs that appear to palpation, percussion or auscultation. The localizing rales after cough are numerous and differences of opinion where whole lobes of lungs are involved emphasizes the importance of the procedure and it is evident that the signs are the kind of sign that can be appreciated with no particular special training.

The appearance of the rales thus developed by cough in the initial infiltration is not explained by any increase in secretion, but by the removal of small localized areas of atelectasis. The noises are caused by the sudden dilatation of small bronchioles in all probability. Just what part the dilatation of the alveoli play in the development of the showery rale is uncertain. The possibility of a small elastic chamber averaging 60 mm. in diameter which would of necessity be the unit upon which any sound of production would be based, if the production of the sound has its basis in the alveolus; the possibility of a small chamber of this size producing any noise appreciable to the human ear; the possibility of a single alveolus or a large number of them in multiple, producing a sound appreciable to the human ear, is solely a problem in physics.

History.

In the history of the presentation of the procedure, since the time of Laennec, about 1823, it has never been emphasized as an important sign or appreciated to really any extent. Historical statements taken by themselves are forcible enough, but the chief objection to them in their appearance in the history of diagnosis is that the statements are prominent by isolation only; that they have not received sufficient emphasis in the text-books, and that they do not occupy a conspicuous place; that the procedure is never conspicuously announced or indexed; and that for long periods of time, it has periodically dropped out of sight. At the present time, no text-book, even including the special text-books written upon tuberculosis, emphasizes in any clear way how very important the sign is. In some of the most monumental books on diagnosis, the discussion of the sign and its use occupies the extent of two obscure lines. One extensive book on diagnosis contains the following quotation: "It is a good rule, therefore, to make the patient breathe deeply several times, and cough once or twice, then immediately afterwards to examine the chest again."

Also in this text-book under the title of "Crepitations" occurs this:

"In early steps crepitation may not be heard with ordinary breathing, but only with deep inspiration, and after a good cough."

In the smaller works on physical diagnosis, the procedure of auscultated cough receives one or two lines, or no mention, and in the text-books of general medicine, the procedure does not appear. In the new special works on tuberculosis, there is no mention of the procedure in the contents with special heading, and no noting of the procedure in the index.

In point of history, the most striking chapter on auscultated cough has been written by the man who first explored the field, namely, Laennec, and there has been no chapter written since that has as carefully covered the field.

"THE RELATIONSHIP OF TABES TO GENERAL PARESIS—ARE THEY THE SAME DISEASE DIFFERING ONLY IN THE SITUATION OF THE LESION."*

By EDWARD D. FISHER, M.D.,

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TABES and general paresis are parasyphilitic manifestations of a primary syphilis.

Tabes is a chronic progressive disease, limiting its lesions to the posterior spinal ganglion, posterior spinal nerve roots, posterior columns, meninges of the spinal cord and the cranial nerves.

General paresis is comparatively an acute disease as compared with tabes, running its course usually within three years.

Its lesions are chiefly cerebral, affecting the meninges and cortex of the brain and the cranial nerves. The spinal lesions involve both the lateral and posterior columns of the cord.

Clinically the two conditions resemble each other in many respects, but also show many essential differences, enough indeed to classify them as two distinct diseases.

In this paper I shall compare the symptoms common to both, and those especially characteristic of each.

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Eye Symptoms—There is one constant condition peculiar to both diseases, *i. e.*, the Argyll-Robertson pupil, which is diagnostic, occurring in no other affection of the nervous system.

Ocular muscle paralysis and optic atrophy are common in tabes but rare in general paresis. In a previous article, "Optic Atrophy in Tabes," I showed from the examination of approximately one hundred cases, and reports from various hospitals for the insane, the comparative infrequency of optic atrophy in general paresis.

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Cerebral Symptoms—Hemiplegia convulsions and mental disease are never present in typical cases of tabes, but are diagnostic of general paresis.

Spinal Symptoms—The character of the pain in tabes is so well defined as to be diagnostic and often so severe, that its necessary treatment by morphine becomes one of the dangers of the disease, such a condition rarely if ever occurs in general paresis. The assertion that the pain is present but obscured by the mental state is not borne out clinically, as in the early stages of general paresis patients are unusually susceptible to the slightest irritation.

It is still more rare to find in general paresis the gastric, rectal or cardiac and other crises common in tabes.

Reflexes—A certain percentages of cases in general paresis show loss of the patellas reflex, but probably the majority show exaggerated reflexes, with or at times without ataxia. This would seem to indicate involvement of both the posterior and lateral tracts of the spinal cord with symptoms of ataxia paraplegia.

The essence of the discussion lies in the primary diagnosis of the class of symptoms which constitute tabes and general paresis. My position is, that ataxia paraplegia of specific origin does not come under the head of tabes. Many such cases with exaggerated reflexes and ataxia come under observation and often pass into general paresis, or more truly stated, were that disease from the onset.

Clinically it would seem that in general paresis the lesions in the nervous system begin at the same time, that is, when the mental symptoms appear, we find also the Argyll-Robertson pupil and the exaggeration or loss of the reflexes, etc. In tabes, however, the spinal and cranial nerve symptoms remain the only sign of the disease for years.

Pathology—Continuing our investigation in the pathologic field we find that all cases of general paresis show changes in the spinal cord, both the lateral and posterior columns, especially the former, in conjunction with the diagnostic changes in the brain, *i. e.*, involvement of the meninges and the cortex.

In tabes the posterior columns are alone severely affected. In cases of many years duration the lateral tracts may become involved, then usually to only a moderate extent.

The brain in these typical cases of perhaps twenty years' duration, shows no changes which can be called typical of general paresis.

Other clinical differences might be cited, the hypotonus in tabes, and its absence in general paresis, with the opposite condition of contractures and spasticity. The most marked clinical difference is the duration and course of the two conditions. The comparatively short duration of general paresis in protracted cases, and the long-protracted course, often of 20 years or more, of tabes.

The position taken by many authorities, as Mott, Ferrier and others, that the conditions are the same from a pathological standpoint, owing their clinical difference to the situation of the lesion of the nervous system and that therefore any case of tabes is liable to pass into general paresis, does not seem to me justified.

It might be asked why so lengthy a discussion on this subject and whether it is not purely academic, both diseases being admittedly parasyphilitic. This answer to this is, that it is of vast importance to say to a case of typical tabes that despite the extreme ataxia and pain and the possibility of optic atrophy, the very severity of the symptoms probably precludes any danger of mental disease—*i. e.*, of general paresis, the great dread and scourge of those who have acquired syphilis.

A patient will face this condition with the same fortitude as he would other diseases, such as cancer and tuberculosis, when the fear of mental impairment or insanity is removed.

CHRONIC APPENDICITIS—A CRITICAL STUDY OF POST-OPERATIVE END RESULTS.*

By E. MacD. STANTON, M.D.,
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A LIVING patient who has received no permanent benefit from an operation is a living, talking, unforgetable advertisement of the failure and any considerable proportion of such cases must soon condemn an operative procedure even though the average results obtained are considerably better than those reached by other means. That the end results in cases operated for supposed chronic appendicitis have not thus far been altogether satisfactory is attested by the fact that in almost every community there are more or less numerous patients who have had their appendices removed with no improvement in their symptoms.

Better end results must come largely through

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careful study of the successes and failures of the past, and the investigation upon which this paper is based was undertaken with the idea that the knowledge so gained might enable us to eliminate a certain proportion of the unsatisfactory late results. This study has consisted of a review of the literature on the subject together with a critical analysis of the end results obtained by my associate, Dr. C. G. McMullen, and myself in one hundred cases operated under the clinical diagnosis of chronic appendicitis.

Definition. Chronic appendicitis has usually been considered under the three following heads:

1. *Recurrent appendicitis* in which the patient suffers from well defined acute attacks with intervals relatively symptomless, the operation being performed to prevent subsequent attacks.

2. *Relapsing appendicitis* in which the patient has suffered from one or more well defined attacks, never having recovered normal health in the intervals.

3. *Chronic appendicitis,* the term including those chronic symptom-producing conditions of the appendix in which definite attacks of acute appendicitis have either never occurred or at least do not constitute an easily recognizable part of the clinical picture. Patients in this class seek relief, not from the acute attacks, but from the more or less serious gastro-intestinal symptoms, pain or other discomforts due to an abnormal condition of the appendix.

The older literature on chronic appendicitis refers almost entirely to interval operations in the recurrent type, but within recent years the term has been more and more limited to the third class of cases and it is to this latter type of appendicular disease that the present study has been chiefly directed.

Pathology.—Considerable confusion exists in the literature concerning the pathological changes found in cases of chronic appendicitis, but almost without exception symptom-producing appendices are associated with anatomical conditions interfering directly with the free drainage of the appendix and as a rule the more permanent the occlusion the more constant or frequent the clinical symptoms. Conversely so-called catarrhal appendices without demonstrable obstructions seldom produce clinical symptoms referable to the appendix.

Actual obstructions may be due to cicatricial strictures within the appendix itself or to fecal concretions or other solid bodies, or to mal-positions of the appendix caused either by a short mesentery or by adhesions, the result of developmental or inflammatory conditions.

Symptoms.—Probably in no other well recognized surgical condition occurring within the abdomen does the literature show such utter confusion regarding the symptomatology. Following the paper on Appendicitis Larvata published by Ewald in 1899, almost every conceivable abdominal ache or pain and every imaginable variety of indigestion has been ascribed to chronic appendicitis or appendicular dyspepsia. All of this reminds one of the confusion which existed a few years ago concerning the symptomatology of gastric and duodenal ulcer and it is to be hoped that in a few years we may have a type picture of chronic appendicitis at least approaching in clearness of outline that of duodenal ulcer or gall stones. The recently published study of Graham and Guthrie goes far toward clearing up some of the confusion, and their findings correspond quite closely with our experiences in our cured cases.

In studying the symptoms of appendicular dyspepsia I have made use of two groups of cases: the chronic appendix cases in whom the symptoms of indigestion were cured by removing the appendix, and a central group of patients operated for acute appendicitis but who after operation found themselves cured of a long standing chronic dyspepsia. The character of the indigestion was the same in both groups and although individual patients may differ in their descriptions of the symptoms the type picture of the essential features is apparently quite constant.

Of the one hundred cases included in this study operated under the clinical diagnosis of chronic appendicitis sixty-four were cured, while in thirty-six the end results were either unsatisfactory or other lesions were found to be the cause of the symptoms. Taking the sixty-four cured patients as a group we are at once struck by the fact that sixty-two or ninety-six per cent. complained of attacks of epigastric or mid-abdominal pain or distress. Forty-seven stated that they had one or more attacks in which the primary pain and nausea were also accompanied by pain or soreness in the right lower quadrant, a fact which aided materially in the diagnosis, but even in these patients the subjective symptoms directly referable to the region of the appendix constitute but a minor part of the total discomfort. On the other hand our uncured patients, almost without exception, complained of pain in the right lower quadrant as their chief symptom. It is a fact worthy of special notice that in only two of our cured patients were the symptoms solely those of right inguinal pain.

Indigestion.—A further analysis of our sixty-four cured cases shows that in fifty-one chronic indigestion was the chief cause of complaint while of the remaining thirteen, eleven gave a history of having had attacks of acute indigestion, the symptoms of which were interpreted as being really those of acute appendicitis.

Pain.—Pain is the most constant symptom of the acute appendix attack, but the first pain is only in rare instances referred to the right inguinal region. The primary pain is almost always located in the epigastrium or mid-abdomen and it is only after some hours or until definite inflammatory changes are well advanced in the appendix that the patient complains of pain in the right lower quadrant. Similarly in our cured cases of chronic appendicitis the pain has been

almost constantly referred to, as epigastric or mid-abdominal rather than right inguinal. On the other hand, nearly all the patients not benefitted by operation complained of right inguinal pain as one of their chief symptoms.

Graham and Guthrie state that given attacks of dyspepsia accompanied by epigastric pain with radiation to or about the umbilicus or lower abdomen we must hold first and clearly to appendicular disturbances and this statement agrees perfectly with our experience. We may call this pain a pylorospasm or account for it as best suits our fancy but it is apparently analogous to the early pain of the acute appendix attack and its presence in real cases of chronic appendicitis is so constant that its absence in the history of a suspected case should lead to a grave doubt as to the accuracy of the diagnosis. Such attacks of epigastric or mid-abdominal pain or distress were present in over ninety-six per cent. of our cured cases.

Epigastric or mid-abdominal pain is also a prominent symptom in a number of other abdominal diseases, but a carefully analyzed history will allow of a differentiation in most cases.

In gastric and duodenal ulcer we have a clean cut regularity in the symptoms not observable in appendicular dyspepsia. In ulcer, before secondary complications have intervened, the intervals between the attacks are free from symptoms and during the attack the pain comes on at a regular interval after each meal.

In gall bladder disease we have the sudden onset and almost equally sudden relief with the characteristic radiation of the pain, or, in the absence of real pain, we may have the sudden attacks of gaseous pressure relieved by belching, slight vomiting or regurgitation.

In chronic constipation the distress or pain is of a diffuse character with areas of special intensity corresponding to points along the colon. Increase of pain or distress is directly referable to the degree of constipation and the trouble is temporarily relieved by catharsis.

In enteroptosis the pain varies greatly in individual cases, bears a definite relation to fatigue and gas is associated with the characteristic physical type and neurasthenic tendencies.

In appendix dyspepsia the first pain of an attack may come on without warning or may follow an indiscretion in diet, but during the subsequent period of disability, food intake is regularly associated with an increase of distress or pain. The pain is irregular as to time of onset and may appear any time from a few minutes to an hour or more after eating and may be manifested only as a peculiar epigastric distress; or attacks of quite severe abdominal pain may be followed by days or weeks in which the patient is afraid to eat because each meal is liable to be followed by a peculiar, tenacious distress of such a nature as to convince both the patient and the examining physician that there is something definitely wrong at some point in the intestinal canal.

Nausea.—Next to the pain and epigastric distress, nausea has been the most frequent symptom in our cured cases. As the pain increases in severity nausea becomes a prominent symptom and with painful attacks approaching in intensity the pain of acute appendicitis, nausea and vomiting become the rule. While actual vomiting is confined largely to the more severe painful attacks, nausea seems to be far more common than in gastric ulcer or gallstones; nausea is the rule during the height of the attacks and frequently is the most constant and distressing symptom complained of by the patient.

Constipation.—Most writers have spoken of constipation as one of the chief symptoms of chronic appendicitis, but in our cured cases constipation has not been more prevalent than in the ordinary run of office patients and removal of the appendix has had no constant effect upon this condition. As will be noted later, a large group of uncured patients, with pain in the right lower quadrant suffered from chronic constipation and neither the pain nor the constipation were benefitted by removing the appendix.

Gas.—In our earlier records gas and distress are often used without special differentiation, but we have come to realize that in chronic appendicitis the distress usually bears no particular relation to gas and although discomfort from gas makes up part of the general picture, gas is a far more characteristic feature of our uncured than of our cured patients.

Appetite.—The appetite often fails during the height of the attack, but generally our histories in the cured cases record the fact that the appetite is good although the patient is often afraid to eat because of the subsequent distress.

Uncured Cases.—Our uncured cases, thirty-six in number, may be divided into several well defined groups, a study of which will, I believe, illustrate some of the errors frequently made by both the surgeon and general practitioner.

Movable Cæcum Group.—This is the largest group and comprises sixteen cases all of whom were characterized at operations by a long, moveable cæcum without any very definite changes in the appendix. None of these patients were permanently benefitted by the operation although nearly all of them were apparently much benefitted for a few weeks or months, a fact probably accounted for by the enforced rest and careful diet incident to the operation and convalescence.

Viewed as a group the histories differ strikingly from those of the cured cases. Previous attacks with symptoms corresponding to acute appendicitis are mentioned in only two histories while in none of the patients in this group was epigastric or mid-abdominal pain a prominent feature. On the other hand right inguinal pain is a constant symptom and gas is a far more noticeable symptom than in the cured cases. Fatigue is often given as a cause of increased pain.

During the past few years a number of papers

have been published in Germany and France dealing with the moveable cæcum in its relation to the diagnosis of chronic appendicitis and Wilms has devised a most ingenious method for fixing the cæcum by means of which he claims to have had 75 per cent. of complete cures, a number of the cured cases having previously had their appendices removed without benefit.

Lane has recently called attention to certain adhesion-like bands which may be present in these cases and cause symptoms by obstructing the ilium close to the cæcum. The real importance of Lane's kink, which has recently attracted considerable attention, has not yet been determined but the possibility of its presence should always be borne in mind.

Kidney Lesions.—Three men in our series not cured by appendectomy subsequently developed typical attacks of renal colic and it is possible that renal obstruction may have been a cause of symptoms in several of the uncured women.

Psoas Spasm.—Two patients not cured by appendectomy apparently suffer from some lesion involving the psoas muscle, the trouble being associated with painful contractures of the right psoas which can be readily palpated in each case.

Hysteria.—Two uncured patients developed typical symptoms of hysteria soon after operation.

Tuberculosis of Mesenteric Lymph Nodes.—Tuberculosis mesenteric lymph nodes were found in one case.

Miscellaneous.—In twelve patients the symptoms still complained of are of such indefinite nature as to leave the diagnosis in doubt. Appendectomy undoubtedly benefitted several of these patients but they still consider themselves far from cured.

1st. In our experience appendicial dyspepsia has been characterized by symptoms strikingly analogous to the earliest symptoms of acute appendicitis, namely, attacks of epigastric or mid-abdominal pain or distress, but only rarely accompanied by subjective symptoms referable to the region of the appendix. During these attacks the pain or distress is nearly always increased by food intake.

2d. Pain confined chiefly to the right lower quadrant and not associated with attacks of epigastric pain and nausea is seldom due to the appendix and before making a diagnosis of chronic appendicitis in these cases every other possible condition should be excluded.

3d. The majority of our failures have been in patients complaining of right inguinal pain associated with chronic constipation. At operation these patients have presented an unusually long or dilated cæcum, usually accompanied by other evidences of enteroptosis. In the future a certain proportion of these patients may be cured by some such operation as that advocated by Wilms, but appendectomy alone does not cure.

4th. Unless the diagnosis is absolutely certain the gall bladder, stomach and right kidney should be explored, and the possibility of a Lane's kink excluded in all cases operated for chronic appendicitis.

THE SIGNIFICANCE AND THERAPY OF HIGH BLOOD PRESSURE.*

By JAMES F. ROONEY, M.D.,

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To bring before you the subject of high blood pressure may seem like carrying coals to Newcastle. I therefore beg your indulgence for some of the material shown in the charts this morning and bespeak your consideration for the remainder.

For a long time I have been struck with the evident difference between the effects of the vasodilators in acute vascular spasms, and in continued states of high blood pressure. Moreover, these drugs in many instances seem to have very much more effect upon the subjective than upon the objective condition. Particularly in the cases of chronic interstitial nephritis and the secondary contracted kidney, there was not found any marked continuous effect upon the pressure during the use of any one, or any combination of the vasodilator group. It seems then that there must be some marked difference between the effect of this group of drugs upon the individual of normal pressure and undisturbed metabolism, and that upon the individual with pathologic vascular, cardiac, and ductless gland lesions.

The first point attempted was to determine the effect of several of these drugs upon normal individuals. For the so-called vasodilator group, four young adults were chosen, one 19, one 20, one 22, and one 24 years of age. For the aconite group the latter three of these were used. On successive days single doses of the drugs whose action was required to be determined were given and the pressure taken in the brachial at intervals of five minutes for the first half hour and thereafter every ten minutes. The nitroglycerine was given in the form of a spirit in a dose of one minum; amylnitrite in the form of a pearl containing three minums, crushed and inhaled. Sodium nitrite in solution of two grains at one dose; erythyol tetranitrate, a single dose of one grain, in a fresh pill. Aconite and veratrum were given in the form of the tincture. Each of the normalpharmacologic charts is the composite of the findings in the total number of experiments.

One characteristic difference occurs in the effect of the action of the two groups—vasodilator and the aconite group—and that is chiefly seen in the difference in their action upon the diastolic

* Read before the Medical Society of the State of New York, at Albany, April 19, 1911.

pressure. The fall of pressure from the nitrite group occurs in both the systolic and diastolic pressures, without great change in the pulse pressure. In fact, in cases of high pressure the pulse pressure may be increased owing to the unloading of the left ventricle. In the aconite group the effect is largely upon the systolic pressure, which is in greatest part probably due to its direct effect upon the heart muscle and the vagus inhibitory mechanism. A selection has been made from the pressure readings of some typical high pressure cases which are illustrated upon the large chart, which also shows the effect upon normal blood pressure of various irritations upon the animal body. There is grouped here two types of the toxic, one of the general, three of the splanchnic, and two of the renal groups of high pressure, with the effect upon the pressure of various therapeutic measures. The toxemia of pregnancy may be taken as an excellent exemplar of the toxic group. Here we have a relatively sudden sharp rise in pressure accompanied as a rule by cerebral phenomena. In these cases any therapeutic measures which divert a large part of the blood volume from the brain into the large splanchnic reservoir, or by other means, as for instance, bleeding from the genital tract or through phlebotomy is indicated. The nitrite group is indicated in this condition much more than the commonly used drugs of the aconite group, particularly veratrum, because of their prompt but evanescent effect. Particularly is this so in those cases of the toxemia of pregnancy accompanied by a seriously damaged heart muscle, pronounced valvular lesions, or a marked secondary anemia. It appears that one of the reasons that so few bad by-effects have occured after the use of veratrum in eclampsia is due to the relative hypertrophy of the heart accompanying pregnancy. Phlebotomy is in these cases as well as in the uremic manifestations of the chronic contracted kidney a measure much less often used than would be, indeed, well. The acute glomerulo-nephritis is another of the toxic group. In this condition the vasodilation consequent upon the hot air bath is shown by the relatively marked fall in pressure with particular relief to the greatly engorged kidneys. The relatively slight effect of the usual treatment in the general vascular scleroses is shown in one of the chronic nephritis curves in which there is hardly any fall in pressure prior to the use of the CO_2 baths. The pressure, however, does fall and remain at the relatively low level for a comparatively long time after their institution. Another of the chronic nephritis charts shows that normally in the terminal period great variation in pressure occurs in part due to varying toxemia, in part to cardiac failure, and in part to exhaustion of the vasomotor center. We make next a group that are almost purely splanchnic, this is the so-called perforative group and in the chart there are shown three such cases. We see that here the only measure of service in reduction of the pressure which is not in itself dangerous is the operative relief of the causative condition. In the one fatal case we notice a relatively wide plateau which remains for some time after operation. This case had a widespread general peritonitis when operated and it seems that the operation did not entirely remove the sources of intra-abdominal irritation. With increasing toxemia paralysis of the vasomotor center ensued, resulting in rapid fall of pressure and death. In both other instances the duodenal perforation and perforation of the appendix, there was after the operation a prompt and lasting fall. From these cases we may see that it is not possible to differentiate as has been held, the abdominal crises of locomotor ataxia from perforations of the hollow abdominal viscera. The pressure in none of these cases was due to pain inasmuch as after the acute primary lancinating pain of the perforation little subjective uneasiness was complained of. The neuralgic chart typifies the great oscillation in blood pressure produced by irritation of the sensory nerve acting reflexly upon the vasomotor mechanism.

In summation one may say first that the utility of the vasodilators is conversely apparent with the acuteness of the pathologic condition. Second, that eliminative measures, hot air, CO_2 baths and carthorsis, are of much more marked effect in the toxic group. Third, that phlebotomy is of great service in the acute toxic groups accompanied by dilatation of the heart, but has fallen into undeserved disuse. Fourth, that blood pressure determinations alone can not differentiate between the crises of tabes and intra-abdominal perforations. Fifth, that the effect of nitroglycerine is as prolonged as that of any of the nitrite group except erythyol tetranitrate and that its rapidity of action is as great as any and nearly as great as that of amylnitrite. Sixth, that the use of the aconite group as vasomotor dilators is pharmacologically unfounded and except in the toxemia of pregnancy with a strong heart muscle should be entirely discontinued.

THE VALUE OF THE EYE IN DIAGNOSIS OF PATHOLOGICAL CONDITIONS.*

By THOMAS DIXON, M.D.,
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AN organ so necessary to our usefulness and happiness as the eye, and which often plays such an important part in the diagnosis of obscure pathological conditions in other parts of the organism cannot be unworthy of the serious attention of every physician, indeed, the intelligent consideration which should be given to such an important member of the body requires an extended knowledge of its structure and func-

* Read before the Brooklyn Medical Society, May 19, 1911.

tion. Even apart from this, it would be natural to suppose that a subject so interesting would surely attract the attention of every conscientious practitioner, but alas, the universal testimony of all those observers who have the best opportunities for ascertaining the true facts is that such is not the case, but that the profession generally have but a superficial knowledge of the subject. It is unfortunate that our medical colleges do not give more time to the study of opthalmology. Seemingly it is considered as a supplementary branch. This is to be regretted, for the physician starting out on his career must have proper training in this matter to fully realize the importance of significant eye changes.

Why do we have in the eye such a great aid to early diagnosis, and how is it that we can tell by careful external or internal observation of it that there is some serious pathological change going on in a distant organ of the body? It is well known that tissues of slight density are acted upon by a penetrating solution more rapidly than those of greater density. In the eye we find every variety of tissue found elsewhere in the body arranged in exceedingly thin layers; the pathological toxins circulating through the vascular system which have an affinity for an organ will affect the thin layer of similar tissue in the eye often before the diseased organ is more than superficially affected. For example the delicate retinal membrane will often show changes before the denser mass of nerve tissue (the brain) is seriously involved.

Hereditary Syphilis.—This obscure insidious disease whose history is reluctantly given or intentionally hidden is directly or indirectly responsible for a large proportion of the more serious diseases of the eye. We are frequently at loss to account for the different manifestations of abnormal conditions in a family whose moral, intellectual and social position militates against a supposition that any taint exists therein, when suddenly an attack of iritis in one of their number elucidates us as to the trouble and what was a mystery before is now made clear, our mode of treatment for that family is changed and where previously there was failure, we are now successful. We are also able to detect by careful inspection of the lens, evidence of a former iritis, likewise changes in the choroidal and retinal membrane due to syphilitic disease. In children between the age of six and fifteen years this disease causes corneal changes, the principal one being interstitial kerititis commencing with a small opacity on each cornea gradually involving them to such an extent that they have the appearance of ground glass. The symptoms are injection of the ciliary zone, photophobia and epiphora.

Hereditary syphilis may cause optic neuritis with subsequent atrophy of the optic nerve or its action on the central nervous system and its peripheral endings may be responsible for certain palsies of the ocular muscles modifying their function or causing loss of function. Paralysis of the third nerve may cause ptosis, external strabismus, dilatation of the pupil, or it may only affect a part of the nerve, that is to say, there may be for example a dilated and fixed pupil with ptosis, but no other signs. Paralysis of the fourth nerve which supplies the superior oblique muscle prevents the eye from turning downward and outward, and should the patient attempt to do this, the eye on the affected side is twisted inward producing diplopia or double vision. If the fifth nerve is paralyzed, there is insensibility of the conjunctiva and destructive inflammation of the cornea. When the sixth nerve is paralyzed there is internal convergent squint and when the seventh nerve is likewise affected the patient cannot close the eyelids.

Acquired syphilis gives some of the before mentioned symptoms, but in this case you have more obvious help to a diagnosis through external manifestations in the skin and glandular system besides a clear history is more easily obtained.

Papillitis and atrophy of the optic disk may indicate pathological changes in the brain. The diseases which most often cause papillitis are intercranial tumors, syphilitic growths and meningitis abscess of the brain and softening from embolism and thrombosis. A high degree of papillitis with signs of great obstruction to the retinal circulation generally indicates cerebral tumor. The diseases most commonly causing atrophy of the disk not preceded by papillitis are the chronic progressive diseases of the spinal cord, especially locomotor ataxy. The changes are slowly progressive, double though seldom beginning at the same time in both eyes and it always ends in blindness, although sometimes not until after many years. There may be paralysis of one or more of the ocular muscles causing diplopia or it may be ushered in by internal ocular paralysis, by loss of reflex action of the pupils to light while the associated action remains. In the insane, the pupillary changes are of much importance as an aid to early diagnosis of this unfortunate condition. When we see one pupil contracted and the other dilated or a condition where reaction to light is lost but the reaction for accommodation and convergence is preserved, there is very likely some grave disturbance of the central nervous system. Diseases of the vascular system are variously related to changes in the eyes and alterations of sight. Valvular disease of the heart is generally present in the case of sudden lasting blindness of one eye clinically diagnosticated as embolism of the arteria centralis retinæ, but in some of these, thrombosis of the artery or companion vein or blocking of the internal carotid and opthalmic arteries has been found post mortem. Brief temporary recurring failure of vision in valvular disease may be the precursor of embolism or thrombosis. In nephritis there is sometimes a sudden loss of vision, but a urine analysis will

differentiate this from valvular disease. In pyæmia one or both eyes may be lost by septic emboli lodging in the vessels of the choroid or retina and setting up suppurative inflammation. The symptoms are loss of sight, congestion of the perforating ciliary arteries, discoloration and dullness of the aqueous and iris. We may have in septicæmia abundant retinal hemorrhages of large size, which may occur in both eyes. They come on a few days before death and are thus of grave significance as they are not present in typhoid and other fevers of corresponding severity. Their presence is sometimes an aid in differential diagnosis. Certain substances when taken or absorbed into the system affect the sight, the more common ones being lead, alcohol, methyl alcohol and tobacco. Quinine taken in large doses at short intervals sometimes causes serious visual disturbances. Sight in both eyes may be totally lost for a time. Diabetes sometimes causes cataract. The rapid formation of double complete contract at a comparatively early age should always lead to a suspicion of diabetes. In old persons the progress of diabetic cataract is often slower and often shows no peculiarities. Leucocythemia causes disturbance of vision due to hemorrhage in the retina. A rheumatic or gouty diathesis frequently manifests itself by a circumscribed inflammation of the sclerotic. The symptoms are pain in the eye, photophobia and epiphora. Occasionally iritis is due to rheumatism or gout. The strumous condition is a fruitful source of superficial eye diseases which are for the most part tedious and relapsing, are often accompanied by severe irritative symptoms, but as a rule do not lead to serious damage. In young children this condition frequently causes phlyctenular conjunctivitis or keratitis and ulcers of the cornea. In adults chronic inflammation of the conjunctiva and cornea. The phlyctenular variety is often caused by children eating too many sweets. Megrim is well known to be sometimes accompanied or even solely manifested by temporary disorders of sight. This generally takes the form of a flickering cloud usually referred to both eyes and is visible when the lids are closed. Erysipelas of the face sometimes invades the deep tissues of the orbit and causes blindness by affecting the optic nerve and retina. Errors of refraction frequently make excessive demands on the general nervous economy causing reflex symptoms. An example is nausea alone or combined with headache which is often relieved by suitable refraction.

In the foregoing article, I have endeavored to demonstrate why the eye is of so much assistance as an aid to early diagnosis. When we consider that the eye is the only sensory organ of the body that is really an outgrowth of the brain and that the brain controls all manifestations of disease, I feel assured that those who make a careful study of this matter cannot fail to realize the importance of the subject.

A PLAN TO IMPROVE MEDICAL EXPERT TESTIMONY.*

By S. W. LITTLE, M.D.,
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THE object, I take it, of our law courts is to grant substantial justice in the cases submitted to them; anything, therefore, which will further this object is worthy of consideration, and anything which will impede such justice should be abolished or rectified.

In a lesser degree anything which will reduce the expense of necessary litigation is worthy of consideration, provided such lessening of expense does not interfere with the attainment of the object, substantial justice.

In the matter of expert medical testimony in our law courts, it is easily shown that, as now presented, such testimony does not further substantial justice; that on the contrary it impedes the attainment of such justice and that it is very expensive. Though this is well known to many physicians, judges and lawyers and to a few others, yet it might be well briefly to explain.

Suppose a murder case with a plea of insanity. Immediately it becomes necessary to get expert evidence on insanity. So the attorneys for the defense and the prosecuting attorney search around until they find some more or less expert alienists who will testify for pay in accordance with the wishes of the side in whose pay they are. In other words, the attorneys, whose object it is to win their cases though theoretically their object is to secure justice, these biased attorneys, I say, select medical experts with the sole object of bolstering up each his own side. Incidentally please note the folly of allowing a lawyer to judge who is a medical expert. It would be less foolish to require physicians to select experts in corporation law; that would not be a matter of life or death. But to resume. These experts, so-called, go on the stand and swear to diametrically opposite opinions—this is not the exception, it is the general rule. Result, the jury is just where it started except for being tired and befuddled by listening to a lot of stuff they absolutely cannot understand. Final result, all such testimony is habitually ignored by juries in reaching a verdict. To them Smith is just as much an insanity expert as Jones; and Smith and Jones gave opposite opinions about the sanity of Robinson, accused of murder. Therefore, they do just what you would do in like circumstances. They give Robinson the benefit of the doubt and acquit. Remember, we are not speaking of the desirability of killing our murderers or of not killing them. We are speaking of getting substantial justice; and if Robinson, who is in most cases legally sane, is in most cases judged by unqualified judges, the jury, to be insane, an injustice has been done

* Read before the Medical Society of the County of Monroe, May 16, 1911.

to Robinson, to his descendents, and vastly greater injustice to society. It is needless to say that medical experts are expensive commodities, but they are.

I have selected a murder case for illustration because it shows most clearly the farce of medical expert testimony. But the same farce is generally enacted whenever medical experts are called in a jury trial. As I have said this state of things is well known to physicians and to lawyers and many suggestions have been made towards betterment. But in spite of years of desultory talk nothing has been done.

The logical thing would seem to be as follows: Have the state medical societies through a commission of real experts draw up a form of procedure. Submit this proposed form to the State Bar Association. Then at a joint meeting of a commission of the Medical Society and of the Bar Association formulate a bill covering the ground and urge the passage of this bill upon the legislature until it is passed and signed by the governor.

Now, the writer is neither a lawyer nor an expert alienist, but he is fairly an expert in a very few lines of medicine and has a limited experience in some laughable farces, taking the chief comedy part of medical expert witness. Also, he is afflicted with ideas on the subject which he is about to unload upon you. In the first place the scheme outlined to remedy the evil has been tried and a bill (Bar Association transactions 1909-10, page 378) thus prepared, failed to pass the Senate. But the thing is started and probably something will eventually pass, although last year a bill still milder, civil cases being left out, never got out of the Senate committee. But it is plain to see that the first bill passed will be very mild, owing not to the doctors but to the lawyers. The bill as presented was altogether a compromise, with the doctors yielding on every point. Even so, some distinguished legal lights professed to fear hobgoblins ahead even if this ladylike bill should become enacted. "Unconstitutional" was the name of the most awful hobgoblin.

Judge Davy objects because the law would be "too radical" (his own words). Now his honor and the writer differ right there irreconcilably. In my opinion nothing is too radical if it is right. He also suggests that such a law would be unconstitutional because it would serve possibly to prevent an accused person from summoning his own witnesses, and with true legal ingenuity he shows how. The idea is this: The court-selected experts would have more weight with the jury and if the accused could not find one of the court experts to side with him but had to go outside for experts, then his case would be harmed and he would not have as good a chance to win. That is, practically, he would be compelled to use court experts. Now, if such a contention is not an example of medieval sophistry it is at least an example of painful ingrowing hang-your-clothes-on-a-hickory-limb-but-don't-go-near-the-water timidity. But it is sophistry in my opinion. The constitution grants an accused person in a criminal case the right to summon and employ his own witnesses. (Judge Davy.) This proposed bill also grants the same thing if I can read and understand English. Possibly, barely possibly, he might not be able to get any of the best obtainable witnesses (the court-appointed medical experts), because they would not testify his way. What of it? Does that prevent him from getting and employing his own witnesses? Not at all. But there would certainly be a prejudice against his witnesses in such a case and there ought to be. Just think of it. A man accused of murder can't get one of several hundred recognized medical experts to say he is insane. All I can say is that he is not insane, constitution or no constitution, Supreme Court or no Supreme Court. But you see I am a Radical. Not a word in Judge Davy's argument about right and wrong, nothing but endless objections of this interminable hair-splitting variety that makes everybody but some formalist lawyers have occasional leanings towards lynch law. Some 250 years ago the following alleged conversation was recorded.

There had been some discussion about the conduct of a certain man and he was asked if he did not think his action would be considered a trespass. He replied in substance:

"No, I have custom for it and can produce testimony that will witness it for a thousand years."

"But will you stand a trial at law?"

"Yes, for custom being of so long standing as above a thousand years would doubtless now be admitted as a thing legal by an impartial judge;"—Bunyan was bringing out the difference between common law and Christian morality. There are still multitudes of Formalists.

Now, this particular proposed bill is very mild and in my opinion the relief sought would be very slight, but it would be a start anyway and by hard work we could gradually improve it. I desire to call your attention, however, to one very grave defect. *The judges select the experts.* You might as well ask me to select 10 to 120 experts in real estate law or ask a master-plumber to select 10 to 120 expert ship carpenters. To be sure, even such judge-selected medical experts would be an improvement on present conditions, but why not do better if we can? Again, the court on either side *may* call one or more of these experts. Why not the court *must* and either side *may?* That would furnish in every case some expert testimony as unbiased and therefore as valuable as possible. Also on the whole it would be a better class of experts than are now called.

Although I appreciate the extreme difficulty of getting even such a bland and harmless reform as this bill represents on the statute books and although I am aware that the bill I would like

to propose is beyond the wildest dreams of possibility, yet I venture to propose a bill which would at least accomplish the object in view, *i. e.*, the best available unbiased medical expert testimony. Undoubtedly the lawyers can prove instantly that it would be unconstitutional from stem to stern. Anyway here it is in rough outline. I know it is impossible at present, but I believe we can force it by my plan as explained later.

1. The legal practitioners of medicine in each judicial district shall through their medical societies present yearly a certified list of medical experts in various departments (insanity, pathology, surgery, etc.), to some designated officer (as county clerk, clerk of a court, etc.). These experts may represent the various so-called schools of medicine as recognized by the state proportionately to the number of each school practicing in that district. The total number of experts shall not exceed 120 in each district.

2. In case medical experts are called at all by either side, the trial judge *must* call at least one of these certified experts (of the kind desired, pathologist, surgeon, etc.), chosen by lot, and his evidence shall be taken exactly as other experts' evidence is taken. These judge-called experts shall be paid by the county an amount granted by the judge. (Mr. Horace McGuire says "this could not be done in a capital case over the objection of the defendant." Bar Assn. Transact., 1909, p. 401. Why, I don't know; but I fail to see any harm done to any such defendent if this plan were adopted.)

3. The judge or either side may, of course, call all the other medical experts he likes.

4. No expert shall be called who has any interest in either litigant.

That is all, but I am aware that it is enough to make all self-respecting judges over 60 years of age hold up their outraged constitutional hands in horror. "It has never been done, you know," "absolutely unheard of," "anarchy," etc. But let us see.

In the first place, the experts are selected by men who know and by the only men who know.

In the next place, the trial judge is relieved of all responsibility in the matter; he simply chooses by lot from a list of real experts.

In the next place, no one of these experts could have any interest in the case except to give his unbiased opinion.

Lastly, the plan does not prevent either litigant or the court from calling all the other experts he likes.

Furthermore, such expert testimony would and ought to outweigh any other expert testimony so that eventually we should see only real experts called.

All of which would tend to securing of substantial justice.

It is interesting to note that in the discussion of this matter by the Bar Association, almost nothing was said about the desirability of securing justice; but pages were said about not interfering even remotely with the speaker's ideas of constitutionality or with the established mode of procedure or with an accused person's chances of getting off. On the other hand one of the speakers said that great difficulty was experienced by the lawyers in explaining to the doctors that what they, the doctors, urged, was impossible because unconstitutional, the lawyers, of course, deciding the matter. So the very mild bill finally prepared was really only what the lawyers would consent to. And I have no doubt they were right, witness the failure of even this faint-hearted measure to pass the State Senate. Nevertheless, the issue is very clear in this particular matter, and is only a good example of the chief reason, I believe, why our courts have fallen into disrepute and are so fiercely criticised not only by unbalanced cranks but by honest clear-headed average citizens. The point is this: The average citizen wants justice at all costs. The average judge and lawyer must conform to usage, precedent and ancient modes of procedure at all costs, justice being incidental. So here —the doctors urged justice, the lawyers said impossible, on account of our constitution. Now, frankly, I don't believe the lawyers are right. If the constitution is incapable of granting justice as times change it is a poor thing and should be abolished. But in my humble opinion, it *is* capable of accommodation to changing times, knowledge and conditions. Finally, in my humble opinion, exactly this idea is at the root of the whole recent upheaval in business and politics. And the soil from which the root grows is nothing else than the moral awakening in this country.

Really, the matter I have just considered perhaps a little unfairly and bitterly, seems to me only a peg upon which to hang an idea that has long been crystalizing in my philosophy.

Some of you may remember that years ago a Populist leader in the West proposed that law should be administered with the Ten Commandments and the Golden Rule as the sole ultimate basis. He was laughed out of the court of public opinion, the writer laughing as hard as anyone. But I am more and more convinced that the Populist was not only honest but that he was a prophet.

The common law seems to be based on custom. But custom depends on very many things and changes with time, knowledge and the general level of morality.

Statute law depends ultimately in this country entirely on public opinion and changes with public opinion; but very slowly necessarily, and in this matter seems to be against a wall.

Constitutions and Bills of Rights depend in this country ultimately on public opinion *at the time they were written* and therefore are always ultimately changed as time goes on and the public opinion changes. Sometimes the changes are violent. Revolution, we call it. In later years

the changes are oftener made peaceably by what we call amendments or by interpretation. But at any rate, constitutions change and ours is no exception, and it takes no prophet to say that it will change some more. Nothing human is perfect, though all humans are striving consciously or unconsciously toward perfection. All of which is proof that in the matter in hand we are progressing at less than a snail's pace and are likely to keep that pace unless something hurries us.

I believe that the doctors can hurry this reform along by acting together as I shall describe. The method would be extra-legal but not illegal. It would put the burden of proof on such lawyers as did not accept our suggestion. It would not involve state-wide combination of physicians. It could be done now and here by the Monroe County Society. It would be a sort of moral challenge and might start something. The extra-legal plan might soon with modifications be the law of the land on some such basis even as my wild dream of what the law should be, outlined above.

The scheme is simply this: Let our Monroe County Society, without consulting anyone else, lawyers, legislators or judges, certify that certain of its members are real medical experts. Publish this list once a year and send it to all attorneys and judges in this district. That is all. The effect, if any, would be a moral one, not binding on anyone; but such an expert, vouched for by his county society, would have a great advantage over an expert vouched for by only his own testimony on the stand. Suppose a case. Smith is hurt in a railroad accident. He claims a fractured skull and permanent mental disturbances. Drs. Brown and Robinson, a surgeon and a neurologist, are called on one side, and Drs. Green and Jones on the other. It is soon brought out in the testimony that Brown and Robinson are vouched for and certified by the Monroe County Medical Society to be experts, one in surgery and the other in neurology. Green and Jones have only their own testimony to prove them real experts. Necessarily the confidence in Brown and Robinson, other things being equal, is greater. Result: lawyers would always try to get these certified experts, if possible.

If the scheme works, it would doubtless spread to other counties and eventually might lead to much desired general legislation. As it is, medical expert witnesses are a laughing stock and with some reason. The lawyers and the legislators cannot or will not make improvements. So for our own reputation, to put it on the lowest ground, we should welcome and further any plan to start a reform. At least as a society, we can go on record as vouching for certain experts and as not vouching for any others. Of course, there may be plenty of others not thus vouched for who are really experts, but it would be easy for such men to be certified by our society if they are fit.

As to the manner of selecting such experts by the County Society, several plans are possible. For example: Let the Board of Censors, as a starter, select ten or more experts in insanity; submit these names to the vote of the society, and if ratified, these are our certified medical experts in insanity. If anyone not on the list wants to be, let him submit his name and credentials to the Censors, exactly as a candidate for membership now does. On the recommendation of the censors and the vote of the society, his name goes on the list. Experts in other lines, pathology, bacteriology, chemistry, surgery, neurology, etc., could be selected in the same way.

This plan is one of many whereby the Monroe County Medical Society can make itself felt for good in the community in a positive way. It is all very well to fight evils such as quackery, ill-advised legislation and the like, but it is far better to do some positive constructive good. We have a few such to our credit, the milk commission and recently our public health lectures, for example.

I am aware of some objections that can be raised but feel that all such can be easily answered and I will not burden you with them now.

We say in effect to public, court and lawyers: "Here is a list of medical men whom the Monroe County Medical Society considers to be experts in various departments of medicine and surgery. We are willing to vouch for their fitness. As to any others we say nothing except that at present we do not vouch for them. You can use our list or not, but if you do not use it you cannot hold the medical profession in Monroe County responsible for any of your medico-legal farces."

ERRORS IN DIAGNOSIS.*

By E. B. KAPLE, M.D.,
ELBRIDGE, N. Y.

I TRUST that no one who notes the subject of my paper will think that I shall presume to dwell upon the importance of making a correct diagnosis, for such is not my intention, nor am I sure that in my position and with my limited experience as compared with that of many to whom I shall address my remarks, I shall not be considered presumptuous in considering errors in diagnosis. However, no one can practice medicine for even a period of sixteen years without making and seeing made, many such errors.

Often it is extremely difficult to correctly diagnose a case, and even after exhausting every resourse at our command, we are still in the dark. Relative to such cases, I have nothing to say, but how often do we see mistakes being

* Read before the Onondaga Medical Society, at Syracuse, May 9, 1911.

made where the diagnosis should have been extremely easy; mistakes made by "the other fellow" when we know that he was perfectly *competent* to have made the correct diagnosis; mistakes made by ourselves in which we know, after some one else has cleared up the case, that we could have done all that was done and should have made no such error.

It is to such errors as these that I desire to call your attention, and to consider some of the reasons (not excuses) why we do so err.

With the general practitioner it is often the case that he cannot find the time to care for all his patients and still give to each the time that a complete examination demands. As a result of such periods of "rushing business" he permits himself to gradually slip into the rut of "snap" diagnosis, no diagnosis, or symptom prescribing. I confess to having many times slipped into just such ruts, only to be jarred out on discovering that some other medical friend has taken the time and not only made the diagnosis but "put me in a hole" as well. These little jolts come to all of us and if they cause us to place the true value upon ourselves, they are extremely beneficial. Especially are these lax methods liable to develop among us country men, where competition is perhaps not so great, and where there are not so many accommodating M.D.'s just around the corner, ready to profit by our mistakes. I therefore assume that no Syracuse physician ever falls into these ruts.

Failure to keep case records is another frequent cause of errors in diagnosis. The one who keeps such records will be more careful to go into the family and past history of the patient, while the mere writing out of the record impresses the writer more firmly than would otherwise be, and the record if of any value will include many facts that would be overlooked or forgotten in a hurried examination. I incline to the belief that most of us have at times experienced attacks of case-record-keeping, but it is too often a self-limited disease, and does not become chronic.

Failure to really examine the patient is another and most frequent source of error. We often take ten or fifteen minutes listening to visionary and frequently disconnected and valueless recitals of symptoms during which the patient impresses upon us the opinion that it is their "stomach, liver or nerves," while we fail to take the few minutes that are necessary to a physical examination from which the information to be derived would be infinitely more valuable and reliable. Either because we are in too great a hurry, or perhaps because the patient is averse to disrobing, we often delude ourselves into the belief that we have examined a chest through several thicknesses of cloth, plus a crepitant shirt front or a squeaking corset.

We decide the presence or absence of an abdominal dullness or tympany by percussing over a belly covered not only by an overabundant fat, but by suspender straps and buttons, corset steels, skirt bands, etc. We delude the patient into the belief that we have examined them thoroughly when we determine (?) the presence or absence of spinal deformity, tender spinal areas, limited motion or rigidity, by poking and prodding along a spine or back covered by just such aids to a clear diagnosis as we have already mentioned.

The patient may object to a thorough pelvic examination, or we may be busy and not insist, while we gravely record, or worse yet, fail to record, a diagnosis of menorrhagia, metrorrhagia, or "change of life," and the patient carries a uterine fibroid or cancer to be discovered, perhaps too late, by one who insists upon and gets a pelvic examination.

We diagnose nervous prostration, nervous exhaustion, neurasthenia, nervousness, or sick headache (perhaps even become so refined as to term it migraine and dispense some migraine tablets) without any effort to discover the causative factor in a possible eye strain, intra-nasal pressure, etc.

We look at the pale cheeks and pale lips of a patient, tell her that she is anæmic while we are reaching for the iron, or on the other hand we may look at the ruddy faced, apparently strong looking individual, with no thought of an anæmia, while the convenient, time-saving, and simple Tallquist scale remains hidden in a pigeon hole in the desk, and the microscope that we scrimped to pay for as well as the Thoma-Zeiss counting outfit we could not get along without, remains unused.

How about that case of "inflammation of the bladder" that we diagnosed, or rather that the patient diagnosed, and we concurred. Pleasant to have "the other fellow" disagree and prove it to be a pyelitis due to stone, or a tubercular kidney or bladder, or even some pelvic displacement. Pleasant to have that other fellow even find it due to a pessary that you placed in a hurry and told the patient to wear eight weeks and then come back.

How about the earache that you treat with cocaine solutions, etc., but fail to examine, and in which the other fellow finds a normal tympanum but a wisdom tooth crying for a chance to break through. Or that facial neuralgia that you treat until some one else sends it to the dentist only to find that the neuralgia was "backed up" by its very frequent companion—a bad tooth. Or the swollen face and pain that you assume to be due to a decaying tooth until the little electric light and the dark room reveals an empyema of the antrum.

That follicular tonsilitis that proved to be diphtheria in the second child, or after the first one was dying, is not pleasant to think about when your culture outfit is still intact and you have economized (?) for the state by not using your antitoxin.

That young patient who presents with slightly

puffy eyes and swollen ankles, and from whom you obtain a morning, afternoon, or any-time specimen of urine, subject same to such usual tests as boiling or HNO_3, sp. gr., and reaction, with negative findings and assure her there is no nephritis, while a thorough and painstaking examination of a mixed 24 hours specimen would reveal an undoubted trace of albumin, with hyaline and granular casts.

That knee joint that you diagnose as rheumatism, and the possessor of which goes through a course of salicylates, iodides, colchicine, etc., with counter irritants and embrocations, yet continues tender, at times swollen, and persists in not getting well. If you had sent her to the X-ray man and had that floating cartilage discovered and removed, you might have received the credit and satisfaction that the other fellow obtained.

None of these are imaginary cases, but are all mistakes that I have either made myself or personally seen made by the other fellow, and while I have advanced nothing new in the way of diagnostic methods, nor added any to your actual knowledge, yet if placing these few inexcusable errors before you shall cause any of you, as it has me, to consider the ease of drifting into loose methods and the importance of continually fighting against such drift, then perhaps I may feel that no apology is due for thus imposing on your time and good nature.

THE DIAGNOSIS AND SURGICAL INDICATIONS OF DUODENAL ULCER.*

By JAMES TAFT PILCHER, M.D.,
BROOKLYN, NEW YORK.

IT is practically impossible to accurately differentiate in all cases between *uncomplicated* ulcers of the gastric outlet and those occuring in the duodenum. The truth of this statement can only be fully appreciated when the patients are followed to the operating room and ocular demonstration balanced against our previous inferences as to the situation of the lesion. In many instances it has been a question of the degree with which the symptoms manifested themselves that led us to the correct diagnosis. The purest type of symptom complex is, however, that evidenced by duodenal ulcer, and it offers to the diagnostician without exception more definite characteristics than any other intra-abdominal pathologic condition.

There are four considerations which are pre-eminent in the very great majority of cases—some authors go so far as to say in all cases, but this is certainly open to question, they are: first, the *chronicity* of the complaint; second, the *periodicity* of the exacerbations of stomach distress; third, the *pain,* its characteristics, and time of inception, and fourth, the *control* of the pain by the ingestion of food or alkalies.

In a series of 156 cases which I have had the opportunity of examining, in all of which ulcer of the duodeum was subsequently demonstrated at operation by Dr. Mayo, and in sixteen others on whom we have personally operated, the following facts are significant: The average duration of the symptoms was between twelve and thirteen years; during this time recourse had been made to internists in nearly every case, and with the remission of the distress the patient was discharged as cured.

The usual statement of a patient is that seemingly without any cause he notices the onset of pain or burning in the stomach accompanied by sour eructations, belching of gas, and possibly vomiting of small quantities of very acrid material, usually between meals. This condition at first lasted from a few days to several weeks, when suddenly, whether without medication or in spite of it, his distress unaccountably ceased and there followed an intermission of several weeks or months of complete health, when the same syndrome was repeated. In many cases the interval of relief was not so complete and he had merely his good and bad days, with exacerbations at varying intervals of time. Either of these phases may continue for years, but finally the periods of remission become shorter, and those of distress longer, until a stage is reached where there may not be complete relief at any time. These early prolonged periods of relief have, I feel sure, encouraged an erroneous impression as to the curability of the condition; yet this symptom complex is so characteristic, having been present in over 90 per cent. of the cases considered, that it alone should be sufficient to warrant a surgeon in forming a tentative diagnosis.

Very early in the course of the disease the patient appreciates subjectively that the taking of food gives him immediate relief, nor does the kind of food affect this result, even acids or liquors suffice to effect an amelioration or complete disappearance of the distress. Lavage is efficacious for the reason that not only is the highly acid stomach content diluted and washed out, but the mechanical stimulus to the stomach effects the reflex flow of the alkaline duodenal secretion which neutralizes the irritating hydrochloric acid present in the duodenum.

This phenomenon of food relief is probably most apparent from a diagnostic standpoint when one elicits the fact that the patient always carries a glass of milk or a cracker to bed, in order that he may resume his sleep after taking a drink or bite to relieve the pain which he knows is going to awaken him.

I use the masculine gender advisedly as this

* Read before the Medical Society of the State of New York, at Albany, April 18, 1911.

affection seems to be peculiar to the male, for 84 per cent. of the cases considered have been of that sex, and but 16 per cent. in women.

The character of the pain complained of is fairly constant in uncomplicated ulcer, and should be carefully elicited from the early history of the case. It is commonly spoken of as a gnawing, burning sensation, occasionally boring. When, however, in the later stages chronic thickening has reduced the lumen of the duodenum, producing a moderate stenosis, or when adhesions have formed involving the gall bladder or other adjacent structures, its character changes. It may become much more severe, of sickening intensity, dull, deep, continuous or boring, and usually after eating, a very slight relief may be followed by an exaggerated exacerbation. Frequently these patients offer another symptom in addition to their regular distress, remarking that they feel as if there was an "apple core" in the region of the cardia. This is due to the retrograde peristalsis of the stomach which is effected through the agency of pyloric spasm, and which phenomenon is quite frequently present in this class of cases.

If the examiner is able to more or less completely establish the foregoing symptom complex, his inferences as to the condition present may receive additional confirmation from the analysis of the stomach contents. Cases of duodenal ulcer in a very large majority of instances give the findings of a hypersecretion of an hyperacid gastric juice, the acidity averaging between 75 and 85 degrees. This is however, in no way pathognomic, and should be considered merely suggestive. In our experience, probably the one most suggestive finding to be obtained from the analysis of the stomach secretion is the finding of hydrochloric acid on lavage of the fasting organ, *i. e.*, about four hours after meals.

In a certain proportion of cases the first evidence of duodenal ulcer is the sudden development of agonizing pain which we have learned to recognize as accompanying perforation. This indicates that in the duodenum there may also occur latent pathologic processes exactly comparable to those frequently noted in ulcer and cancer of the stomach. The diagnosis in patients presenting more or less indefinite symptoms between the two above considered extremes is a question of experience, and one about which it is impossible to write specifically.

I have employed the duodenal bucket thread impregnation test in twenty-five cases of duodenal ulcer, and in ten cases of ulcer of the stomach, and conclude that a negative finding is more conclusive that there is no ulceration present, than that a position straining of the thread is evidence that ulceration exists, and have come to consider it confirmatory rather than diagnostic in its usefulness. As far as the localization of the ulcer by this means is concerned, the inferences have been in many instances fallacious. The deposition of bismuth on the ulcerated surface and its recognition by X-ray has not yet been tried on enough cases to draw definite conclusions. Thus far, however, this method has been employed successfully in a few instances.

In recapitulation, then, we note, the most distinctive evidences of ulceration in the duodenum to be recurring attacks of epigastric distress occurring from three to four hours after meals, lasting for several days to several weeks with a varying interval of comparative freedom, in conjunction with the phenomenon of immediate relief of the distress by the ingestion of food; and, as confirmatory evidence, the finding of a hypersecretion of hyperacid gastric juice, and the recovery of active hydrochloric acid from the fasting stomach.

There should not be, nor does it seem that there is, any ground for conflict between the surgeon and the physician in this field. If we consider the fact that in the cases thus far operated on, the symptoms have existed for an average of twelve to thirteen years, it would be a reasonable comment that errors in judgment are to be laid at the door of conservatism, rather than at that of the aggressiveness of our modern day surgery. We do not at present counsel indefinite postponement in cases of recurring attacks of chronic appendicitis, but rather urge operative interference; why, then, should procrastination be the theme of our counsel when we know that we are dealing with a condition which contains potential elements many times more dangerous than those found in chronic appendicitis? The mortality from properly executed operative procedures is but slightly greater, and this is more than offset by the tremendous percentage obtained in cases which have perforated. We have seen two cases perforate while sitting in the examining room awaiting attention; operation within the hour established, an uncomplicated recovery. What the result would have been after a twelve-hour intermission is very problematical.

What is of greater import, however, is the consideration of the factors which should indicate operative interference before perforation has occurred, assuming for the present that we are not ready to operate in the *free* interval, as in appendicitis or gall bladder conditions.

Hemorrhage.—This occurs in about one-third of the cases, at least, in alarming quantities. It is seldom fatal, but may prove so at any time, and we have no control over it. If it continue to such length that the patient's life is jeopardized, or if it continues steadily but in small quantity, we have the gradually developed secondary anaemia as an indication that bleeding varices are present in the ulcer, and ligature of

these at least by mattress suture is indicated. It is interesting to note that after a hemorrhage the symptoms usually become less severe, or disappear entirely.

Stenosis.—Is readily demonstrable, and a *palpable mass,* which has been present in fifteen of the one hundred and seventy-two cases observed, is an absolute indication for operative interference. The best results are obtained in cases in which stenosis has taken place; indeed, it would seem as if the greater the occlusion of the lumen of the pylorus or duodenum, the more certain are we of a more perfect subsequent course.

In the absence of such controlling indications as hemorrhage, stenosis or tumor, the indications for surgical intervention depend more on the general picture presented than on any one finding. The attacks come more frequently and last longer; the pain is more severe, its relief accompanied with more difficulty; soon it becomes very transitory, and the methods employed to obtain it, cause an increase of the discomfort at a progressively shortening interval. The patient never really recovers his normal health; his weight remains continually below par and he becomes a trial to his friends and an introspective object of pity to himself. Medicines have lost their efficacy. It is this picture which points strongly to the surgeon. The case should be turned over without further procrastination, with the almost certain promise that a return to health may be anticipated.

RETROPHARYNGEAL ABSCESS—ITS DIAGNOSIS AND TREATMENT.*

By MARCUS J. LEVITT, M.D.,

BROOKLYN, N. Y.

THERE are two varieties of retropharyngeal abscesses—those occurring during the first and second year of infancy, called the primary or idiopathic, and those occuring above the third year, resulting from caries of cervical vertebræ. The last variety is not so frequent and will not be considered here.

Simon has described the retropharyngeal lymph nodes as forming a chain on each side of the median line of the pharynx between the retropharyngeal and the vertebral muscles. These atrophy after the third year. When the lymph nodes become enlarged, they are called retropharyngeal adenitis; when suppuration sets in, they are called retropharyngeal abscesses. According to Korewsky, diphtheria, scarlet fever or measles may involve the retropharyngeal nodes. The pus of these abscesses usually contains streptococci, not of a very virulent form.

Bokay has reported a case due to tubercle bacillus.

The majority of the retropharyngeal abscesses occur during the first year of life in debilitated children during winter and spring, but may occur at any time.

Symptoms.—Onset is insidious; it may start with a tonsilitis or pharyngitis. After the acute symptoms have subsided, the patient may have a remittant fever or no fever at all. The prostration is great, restlessness, nurses with difficulty, takes a swallow then lets go and either cries or moans; in some cases there is a swelling at the angle of the jaw. If the abscess is in the upper part of the pharynx, the voice becomes nasal and the nasal respiration is disturbed; if the abscess is low down, the voice becomes laryngeal and the respiration is stridulous like that of a laryngeal spasm or stenosis. Either all or some of the foregoing symptoms may be present in a retropharyngeal abscess. Four out of 25 of my cases had only two prominent symptoms—difficulty in swallowing and change of voice. By inspection nothing abnormal could be seen, but by digital examination I made out a large abscess way down towards the left side.

Diagnosis.—A retropharyngeal abscess is often mistaken for pharyngitis, rhinitis, laryngeal diphtheria, or adenoids. One of my cases was seen by three physicians the same day and two failed to recognize the condition, while the third one sent it immediately to me and a large abscess was evacuated. Such an error could not have occurred had the physicians made a digital examination. Few accomplishments in examining children are more important than the acquiring skill in touching the throat with an exploring finger for this or other morbid condition. Only ten days ago I was called in consultation to see a child of eight months, sick for one week, who presented almost all the characteristic symptoms of a retropharyngeal abscess—pale, pinched features, dyspnea, with a large external tumor on the right side of the neck, some difficulty in swallowing. Inspection and digital examination revealed a normal throat. Evidently it was a case of a retrolaryngeal adenitis with an external abscess of the neck.

In making a digital examination great gentleness should be exercised lest collapse may occur or the abscess may rupture. Under no condition should a mouth-gag be used. Snow and Holt respectively report a case where instant death followed the introduction of a mouth-gag. Death and asphyxia were probably due to pressure of the tumor upon the vagus, as the abscesses were not ruptured in either case.

Care must be taken not to mistake the prominence of the head of the seventh cervical vertebra for an abscess.

Prognosis.—Cases which are treated by incision—the prognosis is good unless the child is extremely weak or marasmic. The mortality is 5 per cent. In neglected cases death is the result, either from asphyxia due to pressure upon or edema of the larynx. Bokay has reported

* Read before the Williamsburg Medical Society, May 8, 1911.

deaths from ulceration into the carotid artery. Morse reported a case in a five months' old baby where the abscess had ruptured into the external auditory canal just external to the tympanum.

Treatment.—If the tumor is hard, hot application should be applied to hasten suppuration, but the patient must be watched carefully. Spontaneous evacuation should not be awaited. As soon as there is any evidence of pus, the abscess should be opened. The patient is held in an upright position and an assistant holds the hands of the patient with one hand and the head is steadied with the other hand. It is important to have good illumination, the mouth is held open with a tongue depressor and incision is made at the thinnest portion of the abscess towards the median line with a knife which is guarded except at the point. I always dilate the incision with a long artery or nasal forceps. As soon as the abscess is opened, the patient's head is tipped forward so that there is no danger of the pus entering the air passages; while the patient is held in this position, the index finger is introduced and all adhesions are broken up. Some authors advise external incision, but I have never found it necessary even when there were large external tumors.

Three of my cases had extremely large tumors on the neck on the same side as the abscess, but on the third day after the internal incision the tumors had subsided and within a week had entirely disappeared.

The subsequent treatment consists of spraying the throat with a boric acid solution or one-third Dobell's solution and tonics to build up the little patient.

Resumé of 25 of My Own Cases.

18 cases out of 25 were under one year; 7 cases were over one year. The youngest was 4½ months, the oldest 2½ years.

Season of the year. Occur at any time. Most of my cases occurred during January, March, April and May.

11 occurred in males and 14 in females.

11 were on the left side; 11 on the right side and 4 towards the median line.

4 out of 25 were previously healthy.

21 out of 25 were either sick from birth or debilitated from disease such as bronchitis, measles or scarlet fever.

A CASE OF MENINGOCOCCIC MENINGITIS IN A THREE-MONTHS-OLD INFANT SUCCESSFULLY TREATED WITH THE FLEXNER SERUM.*

By ALEXANDER SPINGARN, A.M., M.D.,
BROOKLYN, N. Y.

THE following case of recovery from meningococcic meningitis in a young infant is one that should be put on record for the following reasons: (1) The disease occurred in a badly fed marantic infant brought up amid the squalor of a crowded tenement by an ignorant young Irish-American mother, who gave the child but scant attention. (2) The treatment was begun as late as the eleventh day of the disease. (3) In spite of the extremely tender age of the child, comparatively large and frequent doses of the serum were used. (4) The case illustrates the valuable work that is being done by the Research Laboratory of the New York City Department of Health, in aiding in the diagnosis of cases of meningitis and in furnishing without charge in needy cases the specific serum.

The patient, John Hogan, was three months old April 19, 1911. The first child of healthy parents, he was born after a normal, uneventful labor and was breast-fed. Owing to insufficiency of the breast-milk, supplementary feedings with barley-water and condensed milk were started when the infant was one month old. Nevertheless it did not thrive, remaining thin and weak and crying almost constantly. The present illness began April 25th with fever, continual whining, general hyperthesia, and rigidity of the limbs. There were neither vomiting nor convulsions; the infant continued to nurse but had considerable difficulty in swallowing. There was no apparent disturbance of the gastroenteric tract, but the infant was extremely pale and became increasingly soporous from day to day.

On the seventh day of the disease the infant was brought to my service in the Dispensary of the Jewish Hospital of Brooklyn. Examination revealed the following: The child had a peculiar and marked pallor, was weak and emaciated, weighed 8¾ pounds, and held its head slightly retracted and its thighs in a condition of moderate flexion. The infant was markedly soporous, but cried out when handled. The anterior fontanelle was slightly tense and bulging; the pupils, chiefly the right, reacted slowly to light; there was a slight Kernig sign on both sides; Brudzinski's neck and contralateral reflexes were both present. The Macewen sign could not be elicited. There was a moderate bronchitis; the heart was regular with a rate of 140; respiration was 30; the abdomen was neither retracted nor protuberant; and the temperature was 103.4 degrees F. The throat and ears were negative. There was no tâche cérébrale. A diagnosis of meningitis was made, and the mother was advised to leave the child in the hospital. This she was unwilling to do, and took the child home, where I saw it two days later. The clinical picture was unchanged, although the temperature had fallen to 100.6 degrees. The infant had been given calomel and a mild febrifuge, together with small doses of urotropin. Lumbar puncture was performed and 20 c.c. of cloudy cerebrospinal fluid were withdrawn under moderate pressure. The specimen of fluid was examined at the Research Laboratory of the Department of Health and the following day a report was made that

* Read before the Pediatric Section of the Medical Society of the County of Kings, May 24, 1911.

the fluid showed a large number of meningococci and 100 per cent. of polynuclear leucocytes. On the same day, May 6th, the eleventh day of the disease, after removing 20 c.c. of cerebrospinal fluid, injected into the subarachnoid space a like amount of the antimeningitis serum kindly furnished by the Department of Health. Following the injection the infant appeared to be in a condition of collapse; but it soon rallied from this and for the following twenty-four hours it appeared better, and cried less. There were no changes in the reflexes or spastic condition. The temperature was 101 degrees F. The general hyperesthesia continued. On May 7th, after withdrawal of 30 c.c. of cerebrospinal fluid, 30 c.c. of the serum were introduced. The injections were repeated two, three and four days later, on each of which occasions 20 c.c. of serum were administered, although in the last instance no cerebrospinal fluid was obtained on lumbar puncture. Two more injections of 20 c.c. of serum each were given after a dry tap on the two following days. During this time the condition of the infant gradually improved: the whining ceased; the eyes lost their peculiar stare, the pupils reacting normally to light; the infant was again able to nurse; the rigidity of the neck and limbs disappeared; the reflexes became normal; and the temperature showed no elevation at the end of eight days following the first injection. Altogether 150 c.c. of serum were administered. This was introduced into the subarachnoid space not by means of a syringe, but by means of gravity; the serum flowing in from an upright glass tube attached at its lower end to the rubber tubing connected with the lumbar needle. The serum was slightly warmed before being used. The infant was watched for three weeks following the disappearance of the meningitic symptoms, and no tendency to relapse was noted. Two months later the infant, although still somewhat underweight, and showing other evidences of malnutrition, was nevertheless free from acute illness.

The happy outcome in this case which when first seen appeared to be a most hopeless one, can be attributed to nothing else than the use of the specific serum. Epidemic meningitis when otherwise treated is fatal in from 70 to 90 per cent. of the cases, and in children under one year it is practically fatal in every instance. Of twenty-two cases collected by Flexner and Jobling, of infants under one year treated by means of the antimeningitis serum, one-half were fatal. Only two or three of these cases occurred in infants less than four months of age. The successful result in the case reported above was all the more striking in view of the poor hygienic surroundings, the badly nourished state of the child and the fact that the treatment was administered in a crowded tenement apartment, and was begun not earlier than the eleventh day of the disease. Possibly the good results may be attributed to the comparatively large doses of the serum used and to the repetition of the injections. At any rate the outcome was a pleasing surprise, for no hope had been entertained that in an infant so young, and at a stage of the disease so far advanced, recovery could ensue.

GUNSHOT WOUNDS OF THE ABDOMEN, WITH REPORT OF A CASE.*

By E. A. VANDER VEER, M.D., and JOSEPH LEWI BENDELL, M.D.,
ALBANY, N. Y.

In no class of cases confronting the abdominal surgeon is his ingenuity and dexterity put to a severer test than in gunshot wounds of the abdomen. Furthermore, probably in no class of surgical work is the time elapsing between the inception of the diseased process and repair of the same of greater importance. The case here presented is not brought to your attention because of its great rarity either from a pathologic or a clinical standpoint; but because it illustrates a condition that is not met with so frequently in every day practice and also one that emphasizes how, under modern methods of surgical technique and therapeutic conditions that once were looked upon as well-nigh hopeless it may at the present time be considered with some degree of optimism. It is not so very many years since that a battle was being waged between the adherents of immediate operation following gunshot wounds of the abdomen and those who favored the more conservative attitude, namely, that of expectant treatment. If we mistake not, it was the late Wm. T. Bull who was among the first to advocate what at that time was considered a bold and radical procedure, *i. e.*, earliest possible surgical intervention in gunshot wounds of the abdomen. Since that time, with our more perfected methods, immediate operation has come to be the only modern mode of treatment for this condition.

The history of this case is as follows: A. K., aged 16. While hunting on the morning of July 3, 1910, was accidentally shot by a companion who was walking directly in the rear at a distance of about five feet. The gun of the latter, which was held with butt dragging on the ground and muzzle raised, suddenly exploded, and the bullet, a "22 Flobert," entered one cm. to the left of the sacrum. The patient, who described the entrance of the bullet as producing a stinging sensation, dropped to the ground, but did not lose consciousness The accident occurred at 7 A. M. The boy was seen by a local country practitioner shortly following the accident, and immediate removal to a hospital was suggested. The patient was brought in a carriage to the Albany Hospital, reaching there

* Read before the Medical Society of the State of New York, at Albany, April 19, 1911.

at about 9.45 A. M. Upon entrance he was perfectly conscious; temperature 97.8; pulse 88, of fair quality. He was laboring under some considerable degree of shock. Upon entrance he was examined, and from the appearance of the abdomen, which was distended, somewhat hard and tympanitic, a diagnosis was immediately made of gunshot wound of the abdomen, the logical conclusion being that the bullet, entering to the left of the sacrum had ploughed its way into the abdominal cavity and in all probability had lacerated some of the coils of the intestines.

The patient was placed upon the operating table and an incision nine cm. in length made in the mid-line. On entering the peritoneal cavity, a fairly good-sized amount of blood-stained fluid exuded. Gauze tampons wrung out of hot saline were introduced into the abdomen and the coils of intestine were rapidly examined for evidences of trauma. Fortunately, a coil of ileum quickly presented to view and it was soon seen that this portion of the intestinal tract had suffered from the effects of the entrance of the bullet. There were discovered fourteen distinct perforations of the ileum and one of the sigmoid, making fifteen in all, ranging in size from a split pea to a 25-cent piece. With as much rapidity as possible each of these was repaired by means of Lembert sutures, in some instances a single stitch sufficing, while in others a short continuous suture was employed. The general abdominal cavity seemed to be in fairly good condition, inasmuch as the time elapsing between the injury and the operation had hardly allowed of sufficient space for the production of a plastic peritonitis. Small clots of blood and pockets of serous fluid were quickly wiped out of the abdominal cavity. Contrary to our usual custom, even in cases of diffuse peritonitis, the abdomen was thoroughly irrigated with a hot saline solution, inasmuch as we felt that this was a case in which this form of treatment could be well applied. A moderate amount of saline solution was left in situ. Although the use of the glass drainage tube in cases of this character has largely been discarded by us in favor of rubber or cigarette drains, nevertheless in this particular instance a large drainage tube was introduced deep into the pelvic cavity. The wound was then closed with through-and-through silkworm-gut sutures and the patient was removed from the table in fairly good condition. The pulse at that time was 122, regular and of fair quality, the respiration being 36. A small piece of vioform gauze was left inserted in the glass tube.

During the course of the operation a hurried search was made for the bullet itself, but our efforts proved futile. We deemed it unwise to spend too much time in search of the projectile, inasmuch as this was of secondary importance compared with the actual suturing of the lacerated coils of intestine.

Before leaving the table the wound to the left of the sacrum, produced by the entrance of the bullet, was enlarged slightly to allow for freer drainage, but no great effort was made to explore the tract formed by the passage of the bullet.

On returning from the operating room an infusion of 750 c.c. of saline was given subcutaneously. Orders were given that the glass tube be packed every half hour. The patient was placed in the Fowler position and continuous proctoclysis given according to the method of Murphy.

A eight o'clock on the evening following the operation, the boy's temperature, by axilla, was 100.6, his pulse 112 and of fair quality, and respiration 32. At this time he began to complain of restlessness and was given an injection of ¼ of morphia, with 1-150 of atropine, hypodermatically. The following morning his temperature reached 101.2, his pulse had jumped to 120, and the respirations were 34. The drainage had become decidedly less and the tube, which at first had been packed every half hour and then decreased to intervals of one, two and three hours, was being packed every four hours. The saline proctoclysis was continued throughout the day until 3,850 c.c. in all had been given. At five o'clock on the afternoon following the operation, the saline began to be expelled and the patient at the same time began to complain of great thirst. We felt that at this time it would be fairly safe to start something by mouth, and discontinuing the saline, small quantities of water were allowed the boy. Forty-eight hours following the operation, the glass drainage tube was removed and a rubber tube was inserted. On July 10th, seven days following the operation, a low soapsuds enema was given for the first time, with good results, although on a couple of occasions before this there had been a slight bowel movement. The remaining postoperative history of the case is of little interest, as the boy progressed steadily, leaving the hospital on July 30th, apparently normal in every respect.

This case illustrates the value of the Murphy-Fowler treatment in these conditions. Of all the advances in surgical treatment within the past few years, none to our mind has been of greater value and has lessened our mortality in suppurative conditions of the abdomen to a greater extent than what we are pleased to call the Murphy-Fowler treatment. This is certainly based upon the most simple and yet the most rational lines. Our conception as to the treatment of peritonitis has undergone many changes, but we have come to regard the treatment of the resulting toxemia, coupled with our efforts in the direction to limit the focus of the infection, as the two essentials. In regard to the first of these, namely, the treatment of toxemia, the injection of fluids for the purpose of diluting

the toxin circulating in the organism is certainly of vast benefit. For this purpose, no method has given such good results as the continuous drop-by-drop rectal injection of saline as advocated by Murphy. As to the second of these, the limitation of the focus of infection, the so-called Fowler position, consisting of elevation of the head of the bed and an upright position of the patient, thereby producing a gravitation of all exudation deep in the pelvis, appeals at once to any mechanical conception of the condition. The third element, the absolute withdrawal of any fluid or substance by mouth, thereby limiting the peristaltic action, completes the all-important therapeutic advantage of this post-operative treatment. To our mind this plan of treatment is saving lives day by day in acute suppurative abdominal conditions. Our old-time conceptions as to the use of post-operative stimulants, such as strychnia, digitalis and the like, no longer hold the place they once held in surgical procedure. On the contrary, in the vast majority of cases it has been conclusively proved, both by experimental and clinical evidence, that the use of such measures is harmful rather than beneficial. It is in just such a case as the one here reported that the post-operative treatment as has been outlined is of great value. Under our old method of treatment, in which the patient remained prone and fluids were allowed by mouth, nature certainly did not have an opportunity to protect the body against the invading organism.

OPPOSITION AGAINST REFORM OF MEDICAL ONOMATOLOGY BY A NEW MEDICAL DICTIONARY.

By A. ROSE, M.D.

IN one of his letters Professor Vierordt wrote to me: "Your unselfish struggle for reform and simplification of medical onomatology merits appreciation of all who agree with your idea. If we only could introduce the better, the transmitted words in place of the bad and incorrcet terms! But even this we cannot secure; convenience, indolence, ignorance gain the victory. While otherwise there is great dispute about trifles of all kind, there is no interest taken in this no doubt highly important matter, and this indifference is probably due to the deplorable indifference of the majority of the physicians to everything which does not directly or indirectly yield practical gain in material form. I wish with all my heart that your voice in the desert may be heard."

In a letter published in the New York *Medical Journal,* July 29, 1911, I made a few preliminary remarks against a new foe of reform in medical onomatology, against Dr. Stedman and his New Medical Dictionary, which is calculated to eradicate all that I have accomplished thus far in calling attention to our corrupt onomatology and indicating the way of purifying it from barbarisms and incorrectness. I said that I would speak at greater length on this New Medical Dictionary some time, somewhere, and here I come with a war cry.

Dr. Stedman says in his preface: "If it were possible, a moulding of the language of medicine on pure Greek and Latin forms were most desirable." Such moulding *is* possible, but there is an opposition which will not even permit an explanation how it can be done, an opposition which resorts to means such as never have been heard of in the history of medicine.

"The speech of man is wilful and cannot be coerced," says Stedman. And, pray, how has the beautiful linguistic organism, the grammatical and syntactic regularity of the English language been secured? Has it not been by coercing, by the continued exertions and uninterrupted labors and studies of scholars, who have been at the head of the culture of the spiritual development of the nation? And why should not the language of medicine reach such perfection as the result of serious labors undertaken to secure its grammatical regularity and correctness? And are not all serious men in the profession only too anxious to learn the pure Greek and Latin forms if they are pointed out in a medical dictionary? Dr. Stedman further says: "at most an attempt can be made to guide it, or to point out what is preferable," and, as I have mentioned in the letter quoted, in his dictionary he has made no such attempt, but has introduced a new feature by vulgarizing medical lexicography in favor of ignorants who cannot read Greek letters.

Of course, in order to point out correct terms the lexicographer has to know them, and I shall give conclusive evidence that our author is incompetent in this regard. In his preface he says: "For example, one who consults this dictionary for the definition of *oophorectomy* will be referred to *oothecectomy,* and under that title will find the definition. If, however, a barbarous word is in such common use that it were pedantic to question its right of existence, it will be defined, but the correct term will also be given; for example, *ovariotomy* (of mixed Latin and Greek derivation and therefore deplorable) is defined under that title, but the *correct* synonym" (in reality another barbarism) "is also given, and the consulter can use the correct term" (that is, what Dr. S. calls correct), "or continue his evil course as he will," or follow Dr. Stedman in his evil course. The word *oothecectomy,* supposed by our author to be pure Greek and to be correct, does not exist in Greek, for the simple reason that a preposition (ec in this case) can *not* be placed in the middle of a word. I will not speak of the bad taste of using the word *ectomy,* which means castration, but I will surprise those readers who are not very

familiar with the Greek language by mentioning the fact that it is impossible to give a Greek *one*-word term for excision of the ovary. And such is the case with many combinations supposed to be Greek which are found in our nomenclature.

Since the author mentions it in his preface as another example, I will speak at once of the most confusing term, "typhoid fever or typhoid." As far as I am aware this term is specific English. The international word should be typhus. In order to clear up this matter I beg to give Vierordt's classification of different diseases which are named typhus, although they are of distinctly different kinds and aetiologically do not belong together.

Typhus (ὁ τύφος, vapor, stupor, this name has been given from a symptom, the stuporous, apathic condition of most typhus patients).

T. abdominalis (H. F. Autenrieth), or Ileotyphus (English typhoid), Dothienenteritis, (from ὁ δοθιήν, furuncle, and τὸ ἔντερον, the intestine) (Bretonneau), Abdominal typhus.

T. abortivus.

T. ambulatorius.

T. levis.

T. toxicus (Cuschmann).

T. versatilis.

T. exanthematicus or petechialis. (I do not understand why Stedman's dictionary gives epidemic cerebro-spinal meningitis as synonym with typhus exanthematicus. Fact is that some authors speak of Typhus cerebro-spinalis, meaning epidemic cerebro-spinal meningitis, but even this may lead to confusion. Typhus exanthematicus or petechialis is one thing and epidemic cerebro-spinal meningitis is another.)

Vierordt enumerates further:

T. recurrens or Febris recurrens.

T. biliosus (Griesinger), and about typhoid he says, "this word means resembling typhus and *this term is often employed to designate a somnolent or other general condition in all kinds of feverish diseases which remind one of typhus symptoms.*"

Of the vulgarizing of medical lexicography for the benefit of ignorants by writing Greek with Roman characters I have spoken already in the letter quoted. This new feature is certainly most distasteful to all physicians who have had a proper preliminary education. Now, I wish to speak of another, even worse, barbarism, namely, the incorrect pronunciation of Greek words, which has been ad pted by the English and American lexicographers in general, and which Dr. Stedman, the first advocate in America of Greek as universal language for physicians, the author of a Greek grammar, might have corrected.

In order to give an understanding of the importance of this matter I beg to quote from what I said in my book, "Christian Greece and Living Greek," on Greek accentuation:

The accentuation is one of the great beauties of the Greek language, and the rules bearing upon it have been considered as sacred, so that they have not been changed these two thousand years. Accentuation is first mentioned in Plato's Kratylos (399 B. C.). Demosthenes, in his oration on the Crown, called Æschines a μισθωτόν, but had accentuated the word erroneously, namely, μίσθωτον, whereupon the audience corrected him by crying μισθωτόν. The people of Athens in those times had a perfect knowledge of correct accentuation, although no signs for it were then in use. Everybody knew how the native tongue had to be accentuated. It is generally believed that Aristophanes, in the second half of the third century B. C., invented the accents, but closer research has shown that even in the time of Aristotle (fourth century B. C.) some manuscripts were accentuated. Thus Aristophanes was not the inventor of the accents but merely the one who introduced them. His disciple, Aristarch, in the middle of the second century B. C., wrote explicit rules to be observed in written accentuation. It is established that even at the time of Aristotle the *spiritus asper* was no longer pronounced, that it existed only in writing, and ever since it has not been pronounced except by the Erasmians. No Greek, unless he has learned other languages, has an idea of our "h." Writers on the accentuation of the Greek language are found in nearly all centuries, from the third B. C. to the seventh of the Christian era, in the ninth and tenth, in the twelfth and in all those following, up to our own. In all the works of such authors of these two thousand years, the rules of accentuation, the rules which the Greeks have observed from generation to generation, are given. The Greeks of to-day and of all the intervening times accentuate the words in the literary language the same as did their ancestors of the classical period. At the time of Demosthenes, words in prose were pronounced according to accentuation, not according to metric quality. That such was also the case prior to Demosthenes' day has been shown by Hephastis, who says of the comic actors that they, in imitating life, spoke according to accentuation, not metrically. If, then, the comic actors, in imitation of everyday life, did speak verses—poetry—as people spoke in everyday life, it is evident that people did not speak metrically, but according to accentuation, as they do to-day. *The sole purpose of the accents is and always has been to mark the pronunciation.* Only in classical poetry alone did the pronunciation, when the meter required it, deviate from accentuation. Anybody disregarding this rule while speaking metrically in prose would be considered ridiculous, and even Greeks would not understand him any more than we ourselves would understand English when spoken with faulty accentuation. I have learned that there exist even at this day colleges in America and in England in which the ridiculous metric pronunciation of Greek prose

is taught. Such nonsense is unknown in German schools, although otherwise they teach Erasmian pronunciation.

Achylia is to be pronounced achylía, not achy'lia.

Anamnesis, anámnesis, not anamnésis.

Gastroptosia, gastroptosía, not gastroptósia.

Phobia, phobía, not phóbia, etc.

In my letters I spoke of a number of terms which I had introduced which had been accepted (in Lippincott's lexicon, perhaps in others), and which are corrections of barbarisms. These, with the exception of a few, the author has disregarded. They are enumerated in my book, "Medical Greek," and I may be permitted to quote a few of them.

Abrachia, translated by Stedman absence of arms is absence of rocks, the correct word is abrachionia.

Acromicria, acromegalia, splenomegalia, chiromegalia recte mikakria, megalakria or megakria, megalochiria, etc.

Appendicitis. Among the synonyms of this barbarous term is perityphlitis. In the catalogue of the Surgeon General's library it reads, Perityphlitis (Appendicitis), and innumerous are the titles of *American* and *English* publications, not to speak of the German, in which the affection in question is called perityphlitis. His definition of perityphlitis (Gr. peri, around, and typhlos, blind, cæcum), localized peritonitis in the neighborhood of the cæcum and appendix, is arbitrary. In the great Greek lexicon of A. Konstantinides (who wrote and published a Greek translation of my book, "Christian Greece and Living Greek"), there are 79 columns on the preposition *περὶ*, which, according to circumstances, can mean around *or upon*, on account, or for and *περὶ τοῦ τυφλοῦ ἐντέρου* means *on* or *upon* the cæcum and *not* around the *cecum*. *περὶ τῆς κεφαλῆς*, *on* the head, *not* around the head. Perityphlitis and paratyphlitis as understood in the reports of the university clinic of Athens are elegant anatomically correct names, corresponding exactly with peri and parametritis. I beg to refer to numerous papers which I have published on this subject. If there are physicians who prefer appendicitis, *habeant sibi;* but a lexicographer has to be impartial and mention perityphlitis, since it has been adopted by many authors throughout the civilized world in the same sense as it is understood in Athens and by our Surgeon General.

Bronchorrhœa, this and similar terms, according to which an organ like a bronchus, an ear, the stomach, etc., shall have run away, were ridiculed first by Hyrtl in his classical book, "Onomatologia Anatomica."

Cavernitis. In my book "Medical Greek" I said: "A word formation such as this makes the impression of being the work of a schoolboy or a jester," as the correct word I gave, serangitis. I corrected another ridiculous term, cellulitis, by substituting cyttaritis. Cellulitis is what the prisoners in Sing Sing complain of, and bursitis describes the condition when physicians have lost their money in Wall Street.

Chlorosis, recte chloriasis.

Gastrosuccorrhœa, recte chylorrhœa. It is surprising that Dr. S. has not taken notice of this monstrosity of barbarism. I could greatly enlarge this list, but these few examples will suffice to show certain characteristics of Dr. Stedman's work. One of the modern barbarisms is the word kymograph; as a matter of course it should be kymatograph; the word anaphylaxis I might translate with "watch upstairs."

Nobody will demand the omission of barbarsims as long as they are in common use in medical literature, but we should have a criticism of every one of them in a medical dictionary.

And now I come to a term which is a regular enigma. Dr. S. has missed the opportunity to enlighten us on it—I mean the word *abarthrosis.* In the book quoted I gave anarthria; but having consulted since a number of American medical dictionaries, I am at loss to know what this strange word really does mean. Stedman writes: Abarthrôsis (L. ab, from) Diarthrosis. In Foster's great dictionary there are quite a number of synonyms enumerated: aparthrosis, abarticulation, and among these synonyms is also diarthrosis. Summing up what I have collected in at least six medical dictionaries, I find that the barbarism abarthrosis is of English origin. All say that it is a synonym of diarthrosis and that it means luxation. But there cannot be the slightest shadow of a doubt diarthrosis means a perfect joint.

The term phymatosis, which the author has taken from the *vulgar* Greek, I have mentioned in my letter. It would be interesting to learn the author's defense of the nonsensical term phymatosis which he prefers to phymatiasis, a name which can be found in all Greek hospital records.

Dr. Stedman's Dictionary will serve only to increase the existing onomatological confusion and make it more barbarous than it ever has been.

SOME FACTORS IN OPERATIVE TECHNIC AND MANAGEMENT WHICH MAKE FOR SUCCESS OR FAILURE.*

By WALTER B. CHASE, M.D.,
BROOKLYN, N. Y.

THE writer states his paper is, from necessity fragmentary and restrictive in what he would like to say. As a preliminary to all operations, some serious effort must be put forth to determine, as far as possible, the resistance of the individual patient.

First—Ascertain with all possible accuracy

* Read before the American Association of Gynecologists and Obstetricians at Louisville, September 26, 27, 28, 1911.

any variation from the normal standards of health —functional or organic. This includes a precise knowledge of any involvement due to co-existing disease of the circulatory, respiratory, renal, hepatic, digestive, and nervous system, apart from the special surgical aspect of the case.

Second—That the power of hereditary longevity as related to resistance—so often otherwise inexplanable on the chances of recovery after operation, cannot be gainsaid.

The perfect balance of health seen in so many individuals and families, without inherited longevity, often possessed of splendid physique—and many of the characteristics of vigorous health, die from disturbance of that perfect balance either from disease, accident, or operation. Seek out with scrupulous care the previous history of the patient suffering from serious disease or accident. If such have recovered with little or no impairment, other things being equal, they are safe subjects for operations. I have recently had a most remarkable demonstration of this truth not yet reported where adverse circumstances would ordinarily have forbidden operative interference.

Third—The surroundings of the patient must be inquired into. If there is vital impairment —save in imperative cases—take all the time needed in which there shall be the best attainable explanation of the lowered vitality of the patient.

Fourth—Too many specialists (not a few from date of graduation) having little or no knowledge as general practitioners, fall into the grevious error of operating for appendicitis when the ailment is typhoid fever, for supposed intestinal obstruction in the presence of fecal impaction, or for chole-lithiasis where only chole-cystitis is present. It is safer and wiser to admit lack of knowledge on diagnostic points, than to act on insufficient data.

Fifth—The emotional nature cannot be ignored. The influence of hope and fear, the most powerful motives in the human heart, must be reckoned with. In every day life they make alive and kill. They may be equally potential in the domain of surgical procedure. The confidence of the patient must be had in full measure not in diagnosis alone, but as related to results. These neurotic cases must be saved from the depressing influence of needless delay when decision has been made for operation. There knowledge of unfavorable factors must be guarded, and self reliance strengthened. Here may be a legitimate field for the hypnotist.

Sixth—The evil of procrastination on the part of the operator when the plainest evidence demands immediate operation, is a matter of profound regret, not only but unfortunately it is open to severe criticism.

Too many surgeons follow the rule of Aaron Burr, viz., "Never do to-day what you can put off until to-morrow, for when to-morrow comes it may not be necessary to do it." In multitudes of instances such reasoning makes impossible, the doing to-day what should have been done yesterday. Such instances, too often repeated, are unfortunate commentaries on professional incapacity, and lack of discriminating judgment.

Seventh—The imperative need of skilled and experienced anesthetists. If the mortality resulting wholly or in part from shock and hypernarcosis from the excessive and unskillful use of anesthetics, were known and appreciated, there would be inaugurated new methods in hospitals, and private operations, and college, and hospital teaching would undergo radical changes.

No matter who the operator or where his work is done, those intrusted to the administration of the anesthetic should be the best, and not those *least qualified* for so important work.

When such standards of requirement are enforced, fewer deaths from causes not well defined will mar hospital and private statistics.

Greater appreciation of these truths are bearing fruit in this great metropolitan center. Within the area of Greater New York are a corps of expert anesthetists, some who devote themselves exclusively to this work, whose presence in the operating room relieves the operator from a distracting obligation, and facilitates that concentration of thought, so needful to rapid and thorough work not only, but contributes in large degree to the success of the operation. The time is not far distant when this subject will not only seek but receive the attention it demands.

A MEDICAL MONSTROSITY.*

A Condition in Erie County, and in Less Degree in Other Counties, That Should Be Impossible—Report From the State Board of Medical Examiners and Promise of Reform of Abuse by the Regents.

[*From the Minutes of the Board of Regents at Its Late Meeting.*]

THE board will recall that at its meeting of April 19th, it was voted that the report of the Erie County Medical Society be referred to the State Board of Medical Examiners, with directions to report to the Commissioner of Education as soon as may be concerning steps which ought to be taken to guard the gateways of the medical profession, to punish and suppress meretricious practices, and to assure the more general prevalence of higher moral and scientific standards in such profession.

In accordance with this action, the report was duly referred, and under date of June 21,

* From the *Brooklyn Eagle*, September 2, 1911.

1911, too late to be presented at the meeting of the board held June 22, the State Board of Medical Examiners made their report, which I have condensed in such manner as to present to you the substance of the report, as follows:

1. There is no question but that some members of the profession, who are specialists, are in the habit of secretly dividing their fees with, or of granting commissions to physicians who recommend their services; that such unethical methods are far from being general, are, for the most part, confined to the larger cities and limited to a small percentage of practitioners. It is recommended that diligence on the part of the officials of County Medical Societies may make it possible to uncover acts of this kind, and it is the opinion of the board that if the clause of the Medical Practice Act, making fraud and deceit punishable by the revocation of a license, does not provide ample powers, the penal code should be amended to enable the authorities to punish such offenders. The state should take cognizance of the evil and advise the respective county organizations to take action deprecating such practices and calling upon all members to report in all cases of this kind coming to their attention.

2. That while all of the eleven medical schools of the state may not maintain as high a standard as is desirable, yet there has been a steady advancement of this standard for the past twenty years; that because the schools are private corporations, though operating under state charters and in some measure under state control, they are yet, for the most part, unendowed, and therefore reliant upon their own resources and upon patronage for the funds necessary to operate them; that although formerly the members of the faculties of these various institutions who were practitioners realized a financial return for their services as teachers, now almost universally they return their fees to the institution for the improvement of the institution itself, except in the case of the full time professors who are dependent upon their salaries for support; that there are, strictly speaking, no proprietary medical schools in this state; that because of their being unendowed some of the schools have been seriously handicapped and have been, and may yet be, deficient in the necessary equipment and facilities for practical experiment and clinical instruction. Wherever this is the case the school should be compelled to remedy any deficiency in equipment or in teaching force or in clinical facilities that may be necessary to enable it to do efficient scientific work; that in urging the schools to a higher standard it should be the aim to wisely encourage those who now control the medical schools of the state so that their efforts for material assistance may be realized and endowments supercede subscriptions, thus insuring fixed incomes for the maintenance and improvement of the schools.

3. With reference to the number of medical schools in the United States, it may be admitted that there are more such schools than are necessary for educating men in the profession; that in New York State, while there are eleven undergraduate medical schools, each fulfills a function of its own. There is no objection to a small and meagerly attended medical school if the facilities for imparting a proper medical education are at hand, and there may be reasons why a small school with a few students should graduate men who will be the peers of those coming from the larger and most generously attended schools. It is recommended that the Department of Education make an annual inspection of every medical school in the state; that the secretary of the board accompany one of the department's lay inspectors at the time of such inspection so that both a pedagogical and a professional report upon the status of each medical school in the state shall be available at any time. It is proposed that the medical standard be advanced by requiring;

(1.) That all intending medical students pass examinations in certain scientific subjects; and,

(2.) That before taking the professional examination for license at least six months hospital training be required of all candidates.

4. That, while the present method of examination for medical licenses may not be perfect, it is still contended that examinations bearing upon the science of medicine are as complete and exacting as written tests can make them; that in those states where practical tests for final examinations have been held, the results are not by any means satisfactory; that the six months hospital training which should be required of all candidates before admitting them to the licensing examination would take the place of the practical examination suggested in the report, because the physicians in attendance upon the hospitals would make report upon the practical knowledge of the would-be licensed candidate. Suggestion is made of certain possible improvements of the written tests, which seem to the Board impracticable; that the report of the Erie County Society was made without knowledge of the fact that prior to its submission several changes looking to the strengthening of the medical examinations had been adopted by the State Board, with the approval of the Board of Regents; and that the Board of Regents itself was slowly, but as rapidly as could be, advancing the standards both for the medical schools and for the medical examinations.

It may be said without fear of contradiction that the educational standards required of those wishing to enter the medical profession

in New York state have been advancing in keeping with possibilities, and that they would continue to advance to the credit of the profession and to the profit of the state; that to force the issue by exacting requirements out of consonance with the facilities of the schools or out of harmony with the views of the mentors of the profession, would only precipitate a reactionary spirit, which might at least retard the present advance; that the Board advises against any precipitate action, and advocates deliberative action after careful conference and deliberation.

I am not prepared to advise the approval at once of the definite recommendations made by the State Board of Medical Examiners, one of which relates to the inclusion of scientific subjects in the examinations preliminary to medical study, and the other of which woul enforce six months of hospital training in advance of the state examinations for admission to the medical profession. To carry out these recommendations would involve some amendments of the Medical Practice Act, so that in any event they are not feasible at once; nor am I prepared to indorse all of the reasoning of the Board of Medical Examiners. Yet I would not have it inferred that the action of the Medical Society of Erie County and of the State Board of Medical Examiners concerning this whole subject is lightly regarded. The matter is one which goes close to the heart of the difficulties about assuring a scientifically educated medical profession, and about outlawing pretenders and charlatans. I am abundantly convinced that there is a great deal of corruption in the medical profession, and that it is too often sought to be hidden and glossed over rather than exposed and expurgated by the code of ethics and the common practices of the profession, and I am also abundantly convinced that notwithstanding all that has been done heretofore to punish offenders against ethical medical practice and to assure a medical profession which shall be scientifically qualified with reasonable universality, still very drastic steps need to be taken before these ends will be even measurably attained. It is a subject which needs to be publicly agitated and to be most carefully considered by educational and professional experts. We may go much further than we have yet gone without any apprehension of danger of an inadequate number of physicians, and we must go much further or realize that the state will be discredited by the presence of many men flaunting licenses to practice medicine under our authority, who are not at all competent to practice the profession in any scientific, definite or exact way, because the ingenuity with which many of them get through medical schools and pass medical tests is far greater than the assiduity which they bring to a serious study of a very great subject, and I am sorry to say that in all this they often are aided and abetted by some of the medical school themselves, and their deficiencies and corruption in one way or another are too often ignored or acquiesced in by the medical profession itself.

I therefore recommend that no definite action of the Board of Regents be taken upon this matter at this time, but I announce to the Board my intention of presenting some definite recommendations of my own upon the matters raised by the report of the Erie County Medical Society and that of the State Board of Medical Examiners, as soon as there can be sufficient time for full consideration and for consolidating with professional support which must always be relied upon to gain any substantial headway in uplifting the medical profession.

The Medical Society of the State of New York

CORRECTION.

Under "Latest Statistics in Cancer in the United States," Page 323, Vol. 11, No. 7, line 16 should read deaths from cancer 7500, not 75,000.

DISTRICT BRANCHES.

EIGHTH DISTRICT BRANCH.

ANNUAL MEETING AT DUNKIRK, N. Y., TUESDAY AND WEDNESDAY, SEPTEMBER 26 AND 27, 1911.

BUSINESS SESSION.

The following officers were elected: President, Henry A. Eastman, Jamestown; First Vice-President, Arthur G. Bennett, Buffalo; Second Vice-President, Carl G. Leo-Wolf, Niagara Falls; Secretary, Carl Tompkins, Buffalo; Treasurer, Charles A. Wall, Buffalo.

The following amendment to the By-Laws was introduced, and in accordance with the By-Laws, will have to lie over for action until the next annual meeting:

Amend Section 3, Chapter II, by striking out the words "on January 1st of" and substituting the words "at the close of the annual meeting of the Medical Society of the State of New York."

The date for the next meeting was fixed for the fourth Tuesday and Wednesday in September, 24 and 25, 1912.

SCIENTIFIC SESSION.

President's Address, "Defects in Medical Education," T. H. McKee, Buffalo.

SYMPOSIUM ON SYPHILIS.

"Diagnosis," W. W. Quinton, M.D., Buffalo.

"Wassermann Test," A. A. Thibaudeau, M.D., Buffalo.

"Tertiary Lesions," E. A. Sharp, M.D., Buffalo.

"Treatment," G. W. Wende, M.D., Buffalo.

"Genuclasis: Its Indications and Counter-Indications," R. O. Meisenbach, M.D., Buffalo.

"Labor in Moderately Contracted Pelves," F. C. Goldsborough, M.D., Buffalo.

"Oxypathy," C. G. Leo-Wolf, M.D., Niagara Falls.

"Splanchnoptosis and its Relief," A. T. Lytle, M.D., Buffalo.

"Gastric Symptoms: Significance and Treatment," G. W. Cottis, M.D., Jamestown.

"Gynæcology as Met with and Treated by the Country Practitioner," G. H. Witter, M.D., Wellsville.

"Psychology and Psychiatry of Alcoholism," H. W. Johnson, M.D., Gowanda.

COUNTY SOCIETIES.

THE ONONDAGA MEDICAL SOCIETY.

REGULAR MEETING, AT SYRACUSE, N. Y., SEPTEMBER 26, 1911.

Program.

Report of Cases—Injury to Shoulder, Ectopic Gestation, Lightning Stroke, I. M. Slingerland, M.D., Fayetteville.

"The Location of the Hospital for the Insane at Ogdensburg," J. VanDuyn, M.D., Syracuse.

"Diseases of Faulty Nutrition," J. R. Johnson, M.D., Syracuse.

MEDICAL SOCIETY OF THE COUNTY OF SARATOGA.

ANNUAL MEETING, MECHANICVILLE, SEPTEMBER 26, 1911.

BUSINESS SESSION.

The following officers were elected for the ensuing year: President, Arthur W. Johnson, Mechanicville; Vice-President, John Cotton, Burnt Hills; Secretary, James T. Sweetman, Jr., Ballston Spa: Treasurer, Thomas E. Bullard, Schuylerville; Censors, F. F. Gow, D. C. Moriarta and F. J. Sherman.

SCIENTIFIC SESSION.

President's Address, "Our Society," J. S. White, M.D., South Glens Falls.

SYMPOSIUM ON TYPHOID FEVER.

"Etiology and Pathology," W. C. Crombie, M.D., Mechanicville.

"Symptoms and Diagnosis," F. A. Palmer, M.D., Mechanicville.

"Treatment," E. Zeh, Waterford.

"Complications," G. Hudson, Stillwater.

Dr. Edgar A. Vander Veer of Albany also read a paper.

NOTICE.

AMERICAN RED CROSS.

Washington, D. C., U. S. A.

Circular II.

MARIE FEODOROVNA PRIZE COMPETITION.

To be held in conjunction with the Ninth International Red Cross Conference, Washington, D. C., May 7-17, 1912.

Subjects for Competition.

1. Organization of the methods of evacuation of the wounded on the battlefield, comprising as complete an economy as possible in litter bearers.
2. Portable (surgeons') washstands for war.
3. Methods of packing dressings at the aid stations and in the ambulances.
4. Wheeled stretchers.
5. Carriage of stretcher on mule-back.
6. Folding stretcher easily portable.
7. Transport of the wounded between war vessels, hospital ships, and the coast.
8. The best method of heating railroad cars by a system independent of steam from the locomotive.
9. The best model of a portable Roentgen apparatus, permitting utilization of X-rays on the battlefield and at first aid stations.

Prizes.

1 First Prize of 6,000 roubles (approximately $3,000).

2 Second Prizes of 3,000 roubles (approximately $1,500) each.

6 Third Prizes of 1,000 roubles (approximately $500) each.

When and Where to be Awarded.

Inventions entered in this competition are to be displayed at an exhibition to be held on the occasion of the Ninth International Red Cross Conference at Washington, D. C., May 7-17, 1912.

All persons intending to complete for these prizes must forward to the Chairman of the Exhibition Committee, at the above address on or before December 31, 1911, a statement of such intention, giving the number of cubic feet which will be required for the exhibition of their inventions.

Articles entered in this competition must be received, carriage prepaid, at Washington, D. C., on or before April 15, 1912.

Full particulars and conditions as to delivery and removal will be supplied in good time to inventors who give notice of their intention to compete.

Further information, if desired, may be obtained from the Chairman of the Exhibition Committee.

May 22, 1911.

Statutes Governing the Competition.

1. The International Fund of the Red Cross "Empress Marie Feodorovna" was established for the purpose of awarding prizes to the originators of the best inventions for relieving the suffering of wounded and sick soldiers.
2. The original capital of the fund consists of 100,000 roubles, which Her Majesty, Empress Marie Feodorovna, August Protectress of the Russian Red Cross Society, has deigned to donate for this purpose.
3. The principal of the fund remains intact.
4. The interest on the fund is available for prizes to be awarded to the originators of the best inventions for the discovery and rescue of the wounded and sick on the battlefield, the quickest and least painful means of their transportation to the nearest stations for medical aid and their subsequent evacuation as well as, in general, for the best means and methods of relief for the wounded and sick on the battlefield and at the rear.
5. The charge of the fund and its administration belong to the general direction of the Russian Red Cross Society.
6. The date of the distribution of prizes, their destination (within the limits of purposes mentioned in Article 4), the number and amount of prizes, as well as the other details of the competition shall be fixed by each International Conference of the Red Cross for the following Conference. The interval between two successive awards of prizes must not be less than five years.
7. Only new inventions will be admitted for the competition of prizes, namely those, the descriptions of which had not been published prior to or at the competition which preceded the one to which the invention is presented.
8. Preference in the awarding of prizes will be shown to those inventions which have the greatest practical bearing and whose usefulness shall have been demonstrated in the most obvious manner by the models entered in the competition.
9. Inventions are admitted to the competition for prizes exclusively through the medium of the Central Committees of the Red Cross and it is the duty of these Committees to refuse or admit the inventions from their respective countries to the competition. All accompanying expenses rest with the person who presents the invention or with the respective Committee according to the agreement between them.

10. In case of the organization simultaneously with the competition, and in the same city, of an exposition of the Red Cross, the inventions competing for the prize must be obligatorily exhibited at the expense of the persons and institutions which have presented them and this in such a way that there can be no doubt that the objects form a separate group.

11. The award of prizes is made by a special International Jury, composed of eight members, of which two are elected permanently, one by the Russian Red Cross Society and the other by the International Committee. The other six members are elected by the Central Committees of other countries.

12. The Seventh International Conference of the Red Cross appointed six Central Committees, the representatives of which formed part of the jury at the first distribution of prizes which took place in 1907. To permit of the Central Committees of each country, in future, to be represented successively in the Jury, at each Conference two Central Committees shall be withdrawn by lot from the Committees whose representatives took part in the last preceding distribution of prizes. These Committees shall be replaced by two other Committees chosen by the Conference. The Jury elects its own President who directs its work and transmits all its decisions and briefs as well as all designs and descriptions submitted to the Russian Red Cross Society which delivers the diplomas and the prizes

13. The disposable sums of the fund are only appropriated for the distribution of prizes and for those expenses directly related to the work of the Jury, such as the transferring of money, the making of diplomas, etc. The cost for transportation of exhibits to the place of competition and for the care of these exhibits, their exposition, etc, as well as all other expenses which have no direct bearing on the work of the Jury are not to be charged to the fund.

14. If the competition does not give completely satisfactory results, the Jury is not required to distribute the whole sum over which it has control in the award of prizes; the remainder not distributed shall serve to increase the number and the amount of the prizes to be awarded at the following competition.

15. The Central Committees of the Red Cross will be expected to take all necessary measures in their respective countries to give the greatest possible publicity to the competitions.

16. Changes in the destination of the fund or in the provisions of the statutes can only be made in accordance with decisions of the International Conferences of the Red Cross with previous approval of the August Protectress of the Russian Red Cross Society.

BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

Observations Upon the Natural History of Epidemic Diarrhœa. By O. H. Peters, M.D., D.P.H., Cambridge, at the University Press, 1911.

A Text-book of Psychology for Medical Students and Physicians. By William H. Howell, Ph.D., M.D., Sc.D., LL.D., Professor of Physiology in the Johns Hopkins University, Baltimore. Fourth edition, thoroughly revised. Philadelphia and London. W. B. Saunders Company, 1911. Cloth, $4.00 net; Half-Morocco, $5.50 net.

The American Illustrated Medical Dictionary. A new and complete dictionary of the terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, etc., with the pronunciation, derivation, and definition, including much collateral information of an encyclopedic character. By W. A. Newman Dorland, A.M., M.D., Member of Committee on Nomenclature and Classification of Diseases of the American Medical Association; Fellow of American Academy of Medicine, together with new and elaborate tables of arteries, muscles, nerves, veins, etc., of bacilli, bacteria, diplococci, micrococci, streptococci, ptomains and leukomains, weights and measures, eponymic tables of diseases, operations, signs and symptoms, stains, tests, methods of treatment, etc. Sixth edition, revised and enlarged. Philadelphia and London. W. B. Saunders Company, 1911. Flexible leather, $4.50 net; indexed, $5.00 net.

BOOK REVIEWS.

Diseases of the Ear, Nose and Throat, Medical and Surgical. By Wendell Christopher Phillips, M.D., Professor of Otology, New York Post-Graduate Medical School and Hospital; Surgeon to the Manhattan Eye, Ear and Throat Hospital; Fellow of the American Laryngological, Rhinological and Otological Society; Fellow of The American Otological Society; Fellow of The American Academy of Ophthalmology and Otolaryngology; Attending Otologist to the Post-Graduate Hospital and Babies' Wards; President of the Medical Society of the State of New York, etc., etc. Illustrated with 545 half-tone and other text engravings, many of them original; including 31 full-page plates, some in colors. Philadelphia. F. A. Davis Company, Publishers. 1911.

Phillips' book impresses the reader as a clear, logical and concise statement of the present status of our knowledge of ear, nose and throat diseases.

Sufficiently detailed in the foundamental information it imparts to start the student toward a correct comprehension of the various diseases in these branches of medicine, Phillips leaves no important data—whether accepted, or in the stage of controversy—undiscussed and undigested, and thus his book is one of ready reference valuable to the specialist also. The author "rides no hobbies" and shows a keen practitioner's insight into the practical and utilitarian side of every question he touches. His style is very graceful, the subject matter is presented with the easy sequence of a natural teacher, and his opinions, based on an experience extending over twenty years in this line of work, therefore possesses authority valuable to all. His book is signally well balanced.

We commend the courage which departed from the traditional and purged from his pages all obsolete procedures, theories and treatments, which modern otolaryngology does not sanction in practice. We like his logical classification of ear diseases based on pathology. The short descriptive notes of pathologic lesions are excellent examples of exact writing and clear understanding, and the therapeutic measures he advocates are the logical outcome of his comprehension of the pathology described.

The steps of the various operative measures are not merely mentioned, they are described in such detail as to make them capable guides to operators. The illustrations are excellent.

In a book of such general high standard it is hard to pick one or other feature for special mention. The chapter on the labyrinth is the best we have seen in the English language. We think that the hundred pages devoted to the consideration of the influence of general diseases on the ear, nose and throat will be read with pleasure and profit by general practitioners of medicine.

Finally American investigators and clinical observers have received from Phillips a critical, yet kindly study, and in his book find their work co-related from the scattered monographs and society transactions into a complete whole which duly recognizes the work American surgeons have done to advance these branches of medicine. S. J. K.

Manual of Surgery. By Alexis Thomson, F.R.C.S. Ed., and Alexander Miles, F.R.C.S. Ed., Vol. I and II. In two volumes. Edinburgh. Henry Frowde. 1909.

This is the third edition of this work. The first volume is devoted to general surgery and the second

to regional surgery. It is a manual for students, and for ready reference by practitioners of surgery. No theoretical matter is given. Pathology is quite eliminated. The surgical anatomy of the regions concerned is presented. This edition adds the Bier hyperemic treatment, and treatment by serums and vaccines. Surgery of the nerves, the X-ray, Schlatter's disease, Madelung's deformity, the snapping hip, and other more recently described conditions have necessitated much rewriting.

By printing on a good quality of thin paper, and by using rather small type an immense amount of text is condensed in these two volumes. These books have much to commend them. J. P. W.

International Clinics. Edited by Henry W. Cattell, M.D., Philadelphia. Vols. II and III. Twentieth Series, 1910. J. B. Lippincott Company. Philadelphia and London.

The treatment of cardio-vascular disease is discussed by Tyson. A. L. Benedict has an admirable resumé of the progress of therapeutics during the last twenty years. Cumston presents the diagnosis of chronic pancreatitis. A symposium on cancer contains papers by McConnell, Sherrill, and Buchanan. An instructive series of cases is reported from Deaver's clinic. The illustrations are excellent. Drainage of the ventricles of the brain is discussed by Fischer. A chapter on cyesiognosis by Doherty gives all the known signs of pregnancy, and is of especial value to the young obstetrician. Just where the author got "perinei," does not appear. In England, he says, it is the universal custom to deliver women with the patient lying on the side.

A well-illustrated and fascinating chapter is on the book-plates of physicians, with remarks on the physician's leisure-hour hobbies, by Roland G. Curtin, of Philadelphia. It shows the delight of having a hobby, and is rich in historic and literary allusions.

Vol. III contains sections devoted to diagnosis, treatment, teeth and oral cavity, gynecology, internal medicine, surgery, and miscellaneous subjects. Under these are found among others, chapters on Unna's paste in leg ulcers, the salt free diet, pyorrhea alveolaris and vivisection. The chapter on medical metrology by Lucius Tuttle is an admirable plea for the metric system. J. P. W.

Diseases of the Stomach and Upper Alimentary Tract. By Anthony Bassler, M.D., Philadelphia. F. A. Davis Company, Publishers. 1910.

This is an octavo volume of some eight hundred pages of text and illustrations gracefully dedicated by the author to practitioners of medicine.

It is copiously illustrated with many half-tone and line text-engravings and fifty-six full page half-tone plates, plain and in colors, from original photographs and engravings.

The work bears the marks both of learning and research and is a credit to the industry and ability of the author. The first four chapters are devoted to the anatomy, physiology and chemistry of the digestive tract. Chapter IV treats of the interrogation of the patient and contains an excellent scheme of history suggestions which ought to be of value to the practitioner. We do not pay sufficient attention to the matter of history taking. The physician often needs the skill of the cross-examiner to develop the true facts of an obscure case and want of skill in this respect too often leads to erroneous diagnoses. This chapter with the companion chapter, V, on the examination of the patient, deserve the careful attention of the reader.

The radiographs of the various conditions of the stomach as disclosed by the Rœntgen ray in connection with the injection of various Bismuth mixtures show the great value of this method when the apparatus and an operator are available. The colored plates which illustrate the color reaction of the various tests used in the chemical examination of gastric contents cannot fail to be of value to the general practitioner who lacks experience in this work. The chapters on organic disease of the stomach are well illustrated by admirable reproductions of photographs, many of which have the beauty of photogravures. The author has treated the whole subject exhaustively and has produced a work which is a credit to the profession. His volume which he gracefully dedicates to the practitioner of medicine deserves a place on the study table of the family doctor, and the specialist as well.

A Text-Book of Pharmacology and Therapeutics; or the Action of Drugs in Health and Disease. By Arthur R. Cushny,, M.A., M.D., F.R.S., Professor of Pharmacology in the University of London; Examiner in the Universities of London, Manchester, Oxford and Leeds; formerly Professor of Materia Medica and Theraptutics in the University of Michigan. Octavo, 744 pages, with 61 engravings. Lea & Febiger, Publishers, Philadelphia and New York. 1910. Cloth, $3.75 net.

Cushny's Pharmacology needs no introduction to the readers of the Journal. Its fundamental note was sounded in the first preface in the words, "the results of the laboratory investigator are made the basis of almost every statement." From this one will not be surprised to find that much space is devoted to pure pharmacology, and that the therapeutics manifests a non-practitioner's lack of discrimination. But from a pharmacologic viewpoint the work is of the best, and there is no doubt that this book has been an excellent influence in promoting the introduction of laboratory methods into our colleges, and of furthering the valuation of remedies by scientific methods as opposed to empiricism. The attitude of this renowned pharmacologist is conservative and that of the laboratory worker, but we observe an increasing tendency on his part to take into account the data obtained by competent investigating clinicians. For example, in our knowledge of the effects of the digitalis group, he is not backward in giving credit to clinical observations made with the recently introduced methods for measuring arterial pressure, and for obtaining simultaneous graphic records from auricle, ventricle and pulse.

We regret that both the British and United States Pharmacopœial preparations are still mixed up in a most confusing way, and would wish, for simplicity's sake, that a separate edition might be published for British students, so that the British preparations could be omitted from the United States edition. Cushny still clings to the antiquated and arbitrary scale of doses, as, for example, while the fluid extract of nux vomica, which contains 1 per cent of strychnine, the dose is one minim, that of the extract, which contains 5 per cent., is given as one-quarter to one grain.

Yet it would seem as if every practitioner should have such a book as this, for it is a scientific and thorough work on Pharmacology. Not one of the old-fashioned books of ten years ago gives any such satisfactory explanations of the actions of drugs, based on physiology and pathology as we know them to-day.

W. A. B.

DEATHS.

Justin deLisle, M.D., New York City, died August 1, 1911.

Charles Edward Denhard, M.D., New York City, died September 22, 1911.

Robert E. Doran, M.D., Brooklyn, died September 24, 1911.

William C. Phelps, M.D., Buffalo, died August 27, 1911.

Lewis W. Rose, M.D., Rochester, died August 29, 1911.

G. A. De Santos Saxe, M.D., New York City, died September 10, 1911.

NEW YORK STATE JOURNAL OF MEDICINE

A Journal Devoted to the Interests of the Medical Society of the State of New York

ALGERNON THOMAS BRISTOW, M.D., Editor
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Wisner R. Townsend, M.D., New York

Vol. XI. NOVEMBER, 1911 No. 11

EDITORIAL DEPARTMENT

SECTION OFFICERS FOR 1912.

In an editorial entitled "A Foreword from the President," which appeared in the October issue of the NEW YORK STATE JOURNAL OF MEDICINE, the members were informed that the scientific sessions of the Society for the next Annual Meeting would be changed from the plan carried on so many years and that sections would be established. The following list of officers of sections has been appointed:

Section on Medicine.

Chairman—Dr. Henry L. Elsner, Fayette Park, Syracuse, N. Y.

Secretary—Dr. Harold Barclay, 68 East 56th Street, New York City.

Section on Surgery.

Chairman—Dr. Parker Syms, 540 Park Avenue, New York City.

Secretary—Dr. James N. Vander Veer, 28 Eagle Street, Albany, N. Y.

Section on Diseases of the Eye, Ear, Nose and Throat.

Chairman—Dr. Edward Bradford Dench, 15 East 53d Street, New York City.

Secretary—Dr. James Francis McCaw, Bank & Loan Building, Watertown, N. Y.

Section on Mental and Nervous Diseases, Eugenics and Medical Expert Testimony.

Chairman—Dr. Albert Warren Ferris, Sherman Square Hotel, Broadway and 70th Street, New York City.

Secretary—Dr. Edward L. Hanes, 98 Clinton Avenue, S., Rochester, N. Y.

Section on Public Health and Preventive Medicine.

Chairman—Dr. Joshua Marsden Van Cott, 188 Henry Street, Brooklyn, N. Y.

Secretary—Dr. Allen Arthur Jones, 436 Franklin Street, Buffalo, N. Y.

During the past month much work has been done towards perfecting the plans, and details were so far worked out that a fully attended meeting of those who constitute the section officers for the ensuing year was held on Wednesday, October 18, 1911, at the office of Dr. L. H. Neuman, Chairman of the Committee on Scientific Work, in Albany. There were also present, Dr. Albert Vander Veer of Albany, the members of the Committee on Scientific Work, Drs. L. H. Neuman, Chairman, H. L. Elsner, and T. J. Harris, and the President of the Society.

The Scientific Session will last two days and a half, beginning Tuesday noon. The idea is to give every member of the Society an opportunity to read a paper providing, however, that the papers to be submitted shall conform to the general plans already decided upon and that said papers are original essays representing some thought and study. Reports of a single case, reports of a few operations, or papers simply detailing work that has been done over and over again are not desired. It is not the intention to simply have a large number of papers, but to have as many papers of the highest grade as can be secured. The Committee on Scientific Work and the section officers will therefore be compelled to use their discretion in making up the program, and it is desirable that those who expect to present papers shall notify the different section officers of their intention at an early date.

All who present papers will be obliged to comply with the By-Laws of the State Society, which state, Chapter X., Section 2: "All papers read before the Society by its members shall become the property of the Society. Permission may be given, however, by the House of Delegates or the Committee on Publication to publish such paper in advance of its appearance in the NEW YORK STATE JOURNAL OF MEDICINE."

We hope to send the provisional program covering the list of orations, section programs, also full information regarding the general arrangements for the meeting and the list of entertainments, to the members not later than March 1st. The members will also be supplied with full information as to what is being done in advance so that interest may be aroused and that all may be fully aware of the many advantages that will follow attendance at the next Annual Meeting to be held in Albany, April 16, 1912.

WENDELL C. PHILLIPS.

THE OPEN TREATMENT OF FRACTURES—A WARNING.

UNDER the leadership of Arbuthnot Lane of London it has become fashionable in many quarters to treat simple fractures by the open method. Perhaps every one who is now advocating the use of the Lane plate does not go to the extremes of the inventor and make use of it in every case, nevertheless its use is far too common. It seems such a simple proceeding to cut down on a fracture, put the two fragments in cabinetmaker's apposition, bore the necessary holes in the bone, put the plate in position, screw it home and close the wound. It sounds easy. It often is easy, more often quite difficult and involves much disturbance of the soft parts, especially in a deep lying bone like the femur. In fact, the application of a Lane plate to a fractured femur may be most difficult, usually is.

What ought to be the principles which guide us in the treatment of fractures? There are two which are fundamental, viz., the restoration of function and the prevention of deformity. If the first is secured, the second usually follows, although it sometimes happens that there is some deformity even when the restoration of function is perfect. By deformity we ought to mean visible deformity, not the deformity which is revealed by the Roentgen ray, which indeed may seem considerable, although inspection of the injured part reveals none and the functional result may be perfect. The truth is that we are in danger of putting altogether too much dependance on the Roentgen ray. It has been an invaluable agent in diagnosis and treatment. By its means unsuspected fractures have been discovered, malpositions corrected and our general knowledge of the subject much increased. The Roentgen photograph, however, is but the record of a shadow and invariably exaggerates the deviation from exact apposition. It is evident that the nearer the tube is to the injured part and the further away the fractured bone from the sensitive plate, the wider will be the resulting shadow and the greater the error. In our enthusiasm, our praiseworthy eagerness to get exact apposition of the fragments we have been, some of us, led into extremes. We ought to recollect that we cannot deal with the human frame as a cabinetmaker does with a broken piece of furniture. We must always reckon with infection and until we have a certain defense against even the possibility of infection we ought not to make use of Lane's method as a routine procedure. The general practitioner, particularly he who is remote from the great surgical centers, ought, before he is tempted to turn his operating table into a carpenter's bench, to ask himself two questions. Can I secure restoration of function by the closed method? Can I secure this without noticeable deformity? If the answer is in the affirmative, it behooves him to keep away from the knife, the gimlet and the screwdriver and this is equally the duty of the greatest surgeon in the land. What we are after is the result and if this can be secured by a method or methods which afford perfect safety, we ought never to abandon them for a method which has grave dangers and which in the end accomplishes in the vast majority of cases no more for the patient than the older and simpler way which is devoid of all danger.

Perhaps the enthusiast points to the success which has attended the open treatment of a particular form of fracture, that affecting the patella, as an argument for the routine treatment of all fractures by similar means. In the first place, the closed method in this form of fracture almost never brings the fractured surfaces in apposition on account of the interposition of the torn capsule. Secondly, loss of limb and loss of life have both resulted from the open operation in this fracture because of a complicating infection. No argument of value can be made on this ground.

The question was thoroughly discussed at Denver in June, at the meeting of the American Surgical Association. Several unfortunate results were reported following infection and one death from shock as a sequel of the open operation. If such accidents could happen to men who are masters in surgery, what may the rest of us expect if we are going to throw ordinary prudence to the winds and resolve to plate every fracture? Infection is much more likely to happen in these cases than in any other clean case, because of the traumatism to which the tissues are subjected. The use of gloves and the Lane bone holders will diminish the chances of infection but never entirely prevent it. Let us also bear in mind that when we get infection after such an operation we are then called upon to deal with an infected compound fracture, quite a different affair from an ordinary and even extensive wound infection restricted to the soft parts. Until we can prevent wound infection by a prophylaxis as certain as the method of Jenner against smallpox the use of the open method should be restricted to (1) Ununited fractures which have resisted the usual methods. It is justifiable to assume an extra risk in such cases because the loss of function is absolute. (2) Cases of vicious union resulting in loss of function or great deformity. The two usually go together. (3) As a primary measure where the bones are already exposed in a wound. (4) In those oblique fractures in which the upper and lower fragments slide well past each other and cannot be kept in apposition by other means. Finally, let us remember that when we use the open method, its application requires the highest degree of technical skill and the best facilities of a modern operating room. Even under these circumstances disaster may follow.

THE NEW YORK ACADEMY OF MEDICINE VS. FEE SPLITTING.

THE following notice has been sent to all members of the New York Academy of Medicine:

At a Stated Meeting of The New York Academy of Medicine, held October 5, 1911, the following resolution adopted by the Council on May 24, 1911, was read, and it was unanimously voted that this resolution be endorsed by the Academy.

Resolved, that the secret division of a fee, or fees, with any person, or persons, who may be instrumental in influencing a patient, or patients, to apply for operative care or professional advice, is unworthy of any member of the medical profession.

Resolved, that if such a division of fee is made by a member of The New York Academy of Medicine it should be counted as of sufficient ground for the expulsion of the member.

Resolved, that the Council considers it its duty to investigate charges against members made on the basis of such division of fee, and on receipt of proof of offense the Council may either permit the resignation of the person or expel him from the Academy.

This is a move in the right direction and one which is commended to the various county societies. The first step toward the correction of an evil is the public recognition that it is evil and deserving of punishment. Now that so influential a body as the New York Academy of Medicine has put the stamp of its disapproval on the practice and signified its intention of expelling such of its members as are found guilty of dividing fees, whether as giver or taker, it is to be hoped that the county societies will in like manner signify their disapproval *and act*. We may well learn a lesson from the lawyers who, through their local Bar Association, discipline members of the Bar for unethical conduct. In the medical profession it is a very rare occurrence for discipline to be administered when it is clearly demanded. Everybody takes to the woods when the matter comes to the question and dives behind the nearest convenient bush. A twenty-five dollar consultation looms larger than the honor of the profession. So the lay press have taken to lecturing us on our misdeeds and the Board of Regents threatens to take a hand and do our duty for us. It is a condition of things which is utterly discreditable to a profession that in former times deserved the respect of the public and possessed it. Let it not be said that we are utterly callous and unashamed or too cowardly to mend the evils we admit.

Original Articles

CEREBELLAR SYNDROMES.

By SMITH ELY JELLIFFE, M.D., Ph.D.,

DEFECT or disorder of the cerebellum itself, or of its chief afferent or efferent paths, give rise to a number of fairly definite syndromes which may be referred with a certain degree of certainty to the structures involved. Other disturbances also occur, the precise nature of whose mechanisms are still uncertain, although it is recognized that cerebellar structures are involved.

These syndromes may be the result of defect or disorder of the organ itself, its connections, or be complicated by the position that the cerebellum occupies with reference to contiguous structures in the posterior cerebral fossa.

The cerebellum occupies the posterior cerebral fossa, is separated from the occipital lobes of the cerebrum by the tentorium and rests upon the pons and medulla, forming part of the upper boundary of the 4th ventricle. It is connected to the rest of the central nervous system by the anterior medullary velum, the superior, middle and inferior cerebellar peduncles, and posteriorly by the posterior medullary velum. The tela choroidea forms the posterior continuation of this latter structure, and serves as a roof to the posterior part of the 4th ventricle.

Being so intimately connected with structures in the midbrain, the red nucleus and the optic thalamus, with bulbar and pontine centers, and with the cord and also containing a number of nuclei, the dentate nucleus, Deiter's nucleus, nucleus globosus, nucleus emboliformis, tegmental nuclei, etc., with a multiplicity of afferent and efferent tracts, the possibilities of symptomatology are very numerous.

The cerebellum is a central organ, composed of groups of centers for the co-ordination of the reflex system of the proprio ceptors; that is, those sensory impressions coming from receptors throughout the entire body; it thus represents the whole body. These receptors receive thermal, tactile, gravity, weight, pain, sound, light and other stimuli and by means of afferent paths transmit them, chiefly to the cortex of the cerebellum. Many of these paths are known with some degree of certainty; others, particularly those connected with the viscera, are still in dispute.[1]

From the cortex, which may thus be looked upon as chiefly, if not exclusively sensory, these impulses pass to various nuclei of the cerebellum and are there redistributed. It would appear that these intrinsic cerebellar nuclei are mainly motor.[2] The movements of the head are chiefly referable to the intrinsic nuclei; those of the trunk and limbs to the para-cerebellar nuclei.

The chief afferent, or receptor, paths arrive by way of the three cerebellar peduncles. Bech-

terew,[3] l. c., describes seven paths as passing through the inferior cerebellar peduncle, or restiform body. These are in part:

1. The dorso-spino cerebellar tract of Flechsig, which passes up the lateral ventral side by the lateral column, originating from cells in Clark's column, from the upper lumbar to the upper dorsal segments; this tract passes up through the inferior cerebellar peduncle (corpus restiforme), and is thought to be distributed to the middle lobe of the vermis, and the ventro-lateral lobe of the lobus centralis. (Mott).

2. The posterior columns of Gall and Burdach send fibers from their nuclei in the medulla by way of the restiform body, dorsally and uncrossed to the inferior vermis, ventrally and crossed to the superior vermis. (Many authors claim that these bundles have no connection with the cerebellum.)

3. The olivo-cerebellar tracts which originate in the cord, end in the inferior olives from which they pass direct (?) to Deiter's nucleus and crossed to the superior vermis.

4. Vestibulo-cerebellar path from the vestibular ganglion, which sends its central fibers to the nucleus vestibularis and to Deiter's nucleus in the tegmentum, from thence to the inferior vermis. These pass up through the lateral part of the restiform body. In the median portion there are two groups of fibers. One contains sensory fibers from the cranial nerves, the trigeminus and vestibular. They form the direct cerebellar sensory path of Edinger. Other fibers connect the nuclei of the cranial sensory nerves to the cerebellum. Both of these bundles end for the most part in the tegmental nuclei. This tractus nucleo cerebellaris is an indirect path.[4]

In the middle cerebellar peduncle incoming fibers come from the nuclei of the pontine reticular formation, and the ventro-lateral pontine nuclei. Certain of these fibers are in relation to fibers coming from the frontal area to the pontine nuclei and form part of a fronto-cerebellar reflex path.

The fibers passing to the cerebellum by means of the superior cerebellar peduncle, are four in number, according to Bechterew. The best known of these is Gowers' tract, which like the column of Flechsig originates in the column of Clark and passes into the cerebellum by means of the superior cerebellar peduncle. Fibers from the thalamus and from the red nucleus have also been traced and collaterals from the nuclei of the eye muscles.

It is also through the superior cerebellar peduncles that the chief connections between the cerebellum and the sensory motor areas of cerebrum are carried. These cerebello rubral and cerebello thalamic fibers originate in the dentate and other cerebellar nuclei and passing contralaterally to the red nucleus and thalamus end there to be continued further to the cerebrum.

The cerebellum therefore forms an important sensori-motor station in a complicated series of reflexes which work automatically, the cerebellar cortex acting as the primary reception center. The impulses coming from the cord and brain stem traversing the paths just enumerated giving information chiefly concerning the states of tension of the muscular apparatus of the trunk, the extremities and the head, and the states of pressure in the joints and skin. The reflexes combine to regulate the constantly altering positions of the entire body in space and possibly some of the viscera. The cerebellum therefore in this sense acts as a regulatory co-ordinating organ for the estimation of the body in space. To the spinal midbrain cerebral reflex arcs, there are also added fronto pyramido, ponto-bulbo-cerebellar arcs which contain voluntary as well as involuntary regulatory co-ordinating impulses acting to orient the body in practically all of its spatial relations. Cyon adds that, therefore, the cerebellum is intimately concerned with the mathematical sense in its objective relations.

General Symptomatology.

The general symptoms of cerebellar disease, or of its connections, therefore offer a multitudinous complex, the details and the anatomo-pathological correlations of which are still being rapidly added to. Among these, however, certain cardinal symptoms are capable of partial analysis at the present time.

Cerebellar Ataxia. This complex of disturbances is one of the classical signs of cerebellar disturbance. It consists in a disturbance of the co-ordination of the larger muscular group actions, principally of the trunk and lower extremities, although the head, eyes and upper extremities are not uninvolved. Thus standing, walking and the making of fine co-ordinated movements are interfered with in the absence of signs of distinct paralysis.

In walking the wabbly side-stepping gait, so well described by early French authors (Duchenne of Boulogne), as the drunken gait is characteristic. In severe grades, standing becomes impossible, and even sitting. In mild grades one sees the same type of disturbance in many choreas, in paralysis agitans, in general paresis, multiple sclerosis, etc.

A partial study of the cerebellar gait has shown two characteristic trends of disturbance (Stewart and Holmes, Brain, 1904). Firstly, staggering, latero pulsions towards the affected side (at times forward or backward, according to location of lesions in vermis or dentate nucleus). The patient feels as though shoved to one side, and in the attempt at restitution, over-corrects (asynergia of Babinski), and thus sways. The entire orientation in space also is influenced, and the patient bends as it were in the direction of the affected side. (Menagery movements, as in whirling white mice; tumbling movements, as in the tumbler pigeon movements.)

Conscious attempts at correction (fronto cerebellar paths), produce the larger zigzags in the general course of the progression. Forward and backward movements have their special localizing signs to be spoken of. From the anatomical considerations these ataxias may result from involvement of the spino-cerebellar paths (Flechsig, Gowers, vestibular system), as in the Friedeich-Maria Ataxia Group—from involvements in the cerebellum itself (tumors, cysts, ageneses, scleroses), in affections involving the superior cerebellar peduncles—from bulbar and pontine involvements of these paths and also from implication of the cerebello-rubral, cerebello-thalamic and fronto-cerebellar paths. Typical cerebellar ataxias are thus seen in some frontal tumors, with beautiful intoxication gait (Bruns, Oppenheim). The differentiation will naturally take into consideration the accompanying localizing disturbances and the dissociative (diaschitic) signs of the disturbed cerebro-cerebellar paths.

Chiefly associated with ataxias of the trunk and the lower extremities in standing, walking, etc., are the bilateral or unilateral, lateral (usually homolateral) ataxias (dysmetrias), of the upper extremities. The individual muscular activities are illy co-ordinated both as to space and time, the desired act only being arrived at after several trials and errors, as in walking. Visual aid or its lack has little or no influence on the ataxia as tested by the finger-nose test and finger-finger test.

Adiadokochinesis. Originally described by Babinski as characteristic of cerebellar disease, this symptom is not invariably found, nor always clearly indicative of cerebellar disorder, yet it is so frequently found as to merit special attention. It consists of a disability to perform rapidly alternating agonist and antagonist movements, such as rapid pronation and supination, finger play, etc. It is only a variant of an ataxia brought out by a special test, and in the absence of paralysis is usually indicative of cerebellar path involvement. It is frequently absent in extra cerebellar tumors in which there are other well-marked cerebellar signs. (Frontal Tumors.)

Vertigo. Since the cerebellum is the chief organ of orientation in space, severe disturbance of certain of its paths causes vertigo. This is apt to be a prominent and a fairly constant sign. The vertigo is usually of a rotatory character. The patient not only may feel himself revolving in space, but objects may go around from right to left or from left to right, more rarely the vertigo has an up or down character. Each of these two characters is to be sharply inquired into. Here the chief lesions are connected with the vestibular paths, as the labyrinth is the chief cephalic ganglion in the proprioceptive systems, of which the cerebellum constitutes the co-ordinating center. Thus labyrinthine disease itself as well as disorder of its extra cerebellar and intra-cerebellar paths give rise to the symptom. By means of the specific tests devised by Barany a diagnosis of labyrinthine disease from intra-cerebellar disorder is usually possible.

Further, enough experience has accumulated (Stewart and Holmes, l. c.) to show that in general, objects rotate from the diseased to the well side in intra as well as in extra cerebellar affections, whereas the subjective sense of rotation is usually from the diseased to the well side in intra-cerebellar involvement, and the reverse in extra-cerebellar involvement of the paths. This generalization is in need of further study and of more extended proof.

Nystagmus. A third sign rarely absent in cerebellar path disturbance is nystagmus. It is also closely related to the vestibular reflex system, and may result from extra cerebellar involvement as well as intra cerebellar implication of these paths. True vestibular nystagmus is almost invariably accompanied by vestibular vertigo and ataxia. Vestibular nystagmus itself is always modified by the position of the head, hence every person with a nystagmus should be examined with the head in the three planes. A patient with vestibular nystagmus tends to rotate within the plane of the nystagmus and in the direction opposite to that of the quick nystagmic movement. A patient with vestibular nystagmus then, who bends his head forward at 90 degrees will rotate in a direction directly opposite if he bend his head backward 90 degrees. The laws of intra cerebellar nystagmus, apart from actual vestibular disease remain to be investigated. Skew deviations and other eye displacements are to be interpreted in the light of forced movements having their analogies to nystagmus.

Closely associated with disorder of the vestibular system are pain in the muscles of the neck, nausea, vomiting, amblyopia and loss of consciousness. (Ziehen. Med. Clinic, 1905.)

Cerebellar Hypotonus. Palpation of the muscles, testing of resistance movements, and looseness in the performance of passive movements, reveals a type of muscular hypotonus in cerebellar affections which is usually one sided. This hypotonia or atonia is usually accompanied by normal or even exaggerated tendon reflexes, in contrast to that of peripheral neuritis or tabes. One feature of this hypotonus noted by Stewart and Holmes is striking. If a resistence to a definite movement is suddenly relaxed, the normal flexibility of the arm for instance, there is a sudden flexor jerk followed by an extensor recoil, in a cerebellar hypotonic reaction the flexor jerk is excessive and is rarely followed by a recoil.

Asthenia. A paresis or asthenia, usually homolateral, is closely related to cerebellar hypotonus. Its presence in cerebellar disorder has usually been interpreted as due to a lesion

of the pyyramidal tracts by contiguity, but it unquestionably is a true cerebellar symptom. It is chiefly present when the tractus cerebello-vestibularis spinalis, or rubro spinalis is affected. Since the rubro-spinal tract is to be interpreted as an auxiliary to the pyramidal tract, the different opinions of various authors may find a common adjustment.

Cerebellar Asynergia. Described by Babinski as a special symptom of cerebellar disease, this symptom is in reality one of the components of cerebellar ataxia but in the antero-posterior plane, rather than in the lateral planes. It consists in the patient's inability to balance himself, whereby his legs either walk away from under him or he pitches forward without their following. It is a severe grade of retro and propulsion as seen in paralysis agitans and due in both instances to similar pathological foundations.

Cerebellar Fits. Originally described by Jackson (Br. M. J., Nov. 4, 1871) as tetanus-like convulsive seizures with characteristic holding of the body in extended rigid position.

Forced Movements. These are present in the neck muscles, the eyes, and appear as irritation or as defect symptoms due to disease of the hemispheres or of the middle cerebellar peduncle.

Speech Disturbances. Dysarthrias usually indicate the same type of ataxia as found in other muscles of the body (adiadokochinesis), they are usually present in defects of the cerebellum and may indicate general defect of the entire apparatus, disease of the bulbo-cerebellar tracts, pressures upon the bulbar nuclei from contiguous new growths.

CLINICAL.

In discussing disorders of the cerebellum it is convenient to take up first affections of the peduncles, although very rare, then of the cerebellum itself, and finally those disturbances of extra cerebellar location, which implicate the cerebellar mechanisms in the posterior fossa and have additional signs by reason of pressure on contiguous structures, the pons, medulla, and fourth ventricle.

Inferior Cerebellar Peduncle. Corpus Restiforme. Isolated disease of this structure is rare, pressure due to bulbar and pontine disease is not uncommon. The most characteristic symptoms are modifications of the eye movements, convergent and divergent strabismus, even skew deviation, forced positions, turning of body towards site of lesion, and vertigo, with tendency to fall in the direction of the side of the lesion. The chief mechanism involved is the co-ordinating path, the cerebello-vestibulo spinal tract. Adler[5] has collected the cases.

Lesion of the Middle Cerebellar Peduncles. These cause rolling movements of the body on its vertical axis, skew deviation of the eyes, Magendie-Hertwig syndrome, consisting in one eye being higher than its mate. The patients behave as though they had bilateral vestibular disease, causing the rolling motions. The eye symptoms depend on lesions of the fasciculus antero marginalis, fibers to the posterior longitudinal bundle and interference with the fibers to the abducens nucleus. There are few uncomplicated cases on record. Pontine lesions often give rise to symptoms from implication of the middle peduncle.

Lesions of the Superior Cerebellar Peduncles. Isolated lesions of these peduncles are rare. The symptoms are usually choreatic or paralysis agitans like tremor in the same side of the lesion, possibly due to implication of the cerebello-rubro-spinal bundle in the tractus cerebello tegmentia. Forced positions of the head to the side of the lesion have been described. Ocular implications rarely occur, although nystagmus has been observed.

Lesion of Cerebellum Itself. The most important of these are ageneses or aplasias, scleroses or atrophies, hemorrhage, softening, inflammation, abscesses, and tumors.

Aplasia of Cerebellum. These are congenital and represent a vast array of different conditions; total lack of cerebellum, absence of the lateral (in old sense) lobes, absence of vermis, unilateral loss, irregular defects and general congenital smallness of the cerebellum and cerebrum. A consistent symptomatological grouping is not yet possible. Mingazzini[6] has attempted it. With the newer studies in localization by Horsley, Bolk and others, the entire study of cerebellar localization will see marked advance in the near future. We recognize

A. Pure unilateral ageneses and atrophies.
B. Pure bilateral ageneses and atrophies.
C. Cerebellar atrophies associated with
  (a.) Disease of the cerebrum.
  (b.) Disease of the spinal cord.

A. *Unilateral,* loss of a lateral (in old sense) lobe may be present without any symptoms, according to presently developed methods of testing. Few of these cases have been tested by more recent methods. In certain instances unilateral atrophy has been associated with epileptiform convulsions, or retropulsion, when the superficies of the affected hemisphere is atrophic; if the atrophy involved a part of the vermis, slight motor signs such as slowing of the gait have been observed.

B. *Pure Bilateral Agenesis.* In some of the cases reported no symptoms have been observed (old cases). The commonest symptoms are difficulty in standing and walking. The patient, with high grades of atrophy or aplasia, is unable to stand, or sometimes even to sit, in milder grades the stand is wabbly, the feet placed far apart, and walking is possible only with assistance. The gait is then the classical drunken stagger. There is marked asynergia of trunk and lower extremities. Tre-

mors, ataxias, inco-ordination (asynergias) of the upper extremities are also present. Hypotonus, muscular weakness, slow, irregular, hesitating, or explosive speech is also present. (Bilateral atrophies show similar symptoms). Nystagamus may or may not be present, there is usually adiadokochinesis, the knee jerks are usually normal or even slightly exaggerated at times, even in the presence of hypotonus. It is evident that until the newer knowledge regarding cerebellar localization is co-ordinated with the older and newer findings, that the studies which have appeared up to the present time will lack precision.

C. *Combined Aplasias of the Cerebellum and Brain.* Combette's patient with absolute absence of the cerebellum had from birth epileptiform attacks, was imbecile, weakness of muscles of neck and extremities, was able to walk but fell often. Many of those patients are idiotic and imbecile and show similar symptoms to those enumerated in the previous section.

Mingazzini includes the olivo-ponto cerebellar atrophies here, but shall discuss them later. Holmes (Brain, 1907, p. 546) calls these cases congenital smallness of the central nervous system with cerebellar symptoms. A number of conditions may be grouped here. Some of Marie's so-called hereditary cerebellar ataxias are best referred here. Irregular staggering gait, Romberg, disorder of speech, nystagmus, ataxias of limbs. These patients have shown small cerebellums with apparently intact tracts in cerebellum and cord.

Olivo-Ponto-Cerebellar Altrophy. This type was described by Thomas and shows a fairly definite syndrome. Anatomically there is atrophy of the cerebellar cortex, of the bulbar olive, and of the grey matter of the pons. There is total degeneration of the middle cerebellar peduncles, partial degeneration of the inferior cerebellar peduncles and a relative integrity of the cerebellar nuclei. It is not necessarily hereditary, familial nor congenital, coming on at an advanced age and progressing slowly. Clinically there is great defect in equilibration in standing and walking, drunken gait, Romberg is absent, some irregular intention tremor, usually nystagmus, and also scanning speech.

Cerebellum and Cord Atrophies or Aplasias.[7] Here also a motley group are on record. These cases will vary greatly in proportion to the varying degree of lesion in cerebellum and in cord. Some of Marie's hereditary cerebellar ataxias also belong here. Some authors are disposed to refer Friedreich's disease to this group also and to claim that between these two disorders one finds every gradation from the Friedreich with mostly cord and little cerebellar change, to Marie's type with mostly cerebellar and little cord change. This is not borne out by recent studies. The chief signs here[8] are ataxias of the legs, arms, facial, ocular, head, laryngeal and pharyngeal muscles. Cerebellar reeling in Romberg. Later palsies and contraction, exaggerated tendon phenomena. In most of these cases the lesion is predominantly in the cord.

In other cases with degeneration of the spino-cerebellar tracts with normal or only small cerebellum, one finds patients with staggering gait, scanning explosive slow speech, nystagmoid jerkings of the eyes, muscular cramps, fatigability of muscles, normal or exaggerated knee jerks.

Primary Parenchymatous Degeneration.[9] Holmes has described this condition. It usually sets in about middle life and progresses slowly. Staggering or reeling gait is an early symptom, then asynergia of the upper extremities, and later hesitancy, scanning, or explosion articulation. Nystagmus, tremor of the head and limbs, tendon reflexes were normal or sligthly exaggerated. No clonus, no Babinski. Sphincters intact and normal psyche. Most of the cases have shown familial characters.

Hemorrhage of Cerebellum.[10] Cerebellar hemorrhage is probably extremely rare. Its symptomatology will depend largely on its size and the location of the effusion. The superior cerebellar artery is often involved, thus implicating certain portions of the dentate nuclei. Extension into the fourth ventricle is to be borne in mind.

The onset of the symptom is usually sudden or preceded by pain in the back of the head with slight giddiness or forced position of the head. There is usually marked vertigo, recurring on attempts to move, and usually persisting in nonfatal cases. Cerebellar gait, forced position of head, depending on location, nystagmus, especially on lateral movements. Operative interference is usually useless.

Cysts of Cerebellum.[11] Cysts and Cystic tumors are not always distinguishable. Together they form a small proportion of tumor formation in the cerebellum (5-10 degrees). The symptoms of cerebellar cysts are practically identical with those of cerebellar tumor but the operative outlook is much better.

Cerebellar Tumors.[12] Before discussing the subject of tumors of the cerebellum proper and their symptomatology, a word may be said regarding the question of cerebellar localization. The researches of Bolk in comparative anatomy and others[13] have served to make fairly certain that both in the cortex and in the intrinsic nuclei there are definite localizations, the former with reference to sensory representations from different portions of the body, the latter with reference to motor representations.

With reference to sensory representation, studying practically only the terminations of Gower's tract, Horsley (Brain, 1909), concludes that there is no evidence of differentiation of the cerebellar cortex into localized receiving

stations for the impressions (muscular, arthritic), which ascend from the arm trunk, or leg muscles, joints, etc., respectively. This author holds that the results of the work of Bolk and others did not guard sufficiently against lesions of the adjacent nuclei.

While this may be true for the distribution of Gower's tract, it is not true for the distribution of the olivo-cerebellar tract. Stewart and Holmes (Brain, 1908), have shown that fibers from certain portions of the inferior olives pass to definite regions in the contra lateral cerebellar cortex. The function of these olivo-cerebellar paths is still in question. As to localization for other receptor paths (chemical, etc.), exact knowledge is absolutely wanting at the present time.

So far as localization of motor function in the nuclei is concerned this seems to have received definite confirmation by the work of Horsley (l. c.). His results have not appeared at the time of writing.

Cerebellar tumors are relatively frequent. Almost one-third of the brain tumors occurring in childhood and adolescences are of cerebellar origin. In order of frequency one finds glioma, tubercle, sarcoma and fibroma.

The chief general symptoms of cerebellar tumors are headache, usually severe and occipital or frontal and apt to be confined to a sagittal plane; papillœdema and later optic atrophy, rapidly progressive, vomiting, vertigo and tenderness to percussion over the occiput, are present.

Tumors in the hemispheres not involving the central tracts or the intrinsic nuclei may give rise to no more symptoms than these. But there is usually an implication of these contiguous structures with added symptoms. These are the classical cerebellar syndromes of gait and attitude; asyngeria, ataxia, and adiadokochinesis of the same side, with hypotonia of special character already described, and motor paresis of the same side. To these are usually added nystagmus and eye deviations already noted. The nystagmus is apt to be pronounced only on looking to the affected side and is usually slower and coarser than the nystagmus of labyrinthine origin or of involvement of the vestibular tracts. As these latter are frequently impinged upon it is useless to insist upon too fine distinctions in the character of nystagmus. Unless the pyramidal tracts are influenced by pressure the arm and leg tendon reflexes are not markedly exaggerated, nor are they lost, and the Babinski, Oppenheim, Schaefer, Chaddock and Remak signs of pyramidal tract involvement are not present. The abdominal reflexes are usually unmodified.

As the tumor increases in size there are added symptoms due to encroachment or pressure upon contiguous structures. These are usually the signs of involvement of the pyramidal tracts, eye palsies, and of the cranial nerves, from the fifth to the twelfth. These all show on the opposite side of the body. The two lower branches of the facial are involved, the tongue protrudes to the paralyzed side and is without atrophy or R. D. Occasionally the medulla is pressed upon and one finds all branches of the facial involved with atrophy of the tongue. Homolateral anæsthesia of the cornea may be present, due to trigeminus involvement. Homolateral affection of the ears, deafness, buzzing. Homolateral pain to pressure in the mastoid may aid in diagnosis. Percussion should never be neglected. Oppenheim has called attention to the cracked pot sound. Unilateral signs are apt to pass over into bilateral signs as the pressure increases, with dysarthria, dysphagia, continued vomiting, and finally cardiac and respiratory signs. When seen in the final stages recourse must be made to the history. Lumbar puncture may give important information in clearing up a diagnosis of meningitis serosa, or hydrocephalus.

Cerebellar Abscess. These are relatively frequent and originate mainly from middle ear infections, either by way of the temporal lobe or the mastoid, and wounds, from trauma, which latter may have occurred a long time previously. Occasionally abscess may result from infectious thrombus, from the abscess of the lungs, ulceratice endocarditis, etc.

These abscesses vary considerably in size from that of a pea to an apple, and their development is either acute or chronic.

The characteristic symptoms are headache, usually occipital, and radiating into the neck region, producing marked stiffness of the neck, at times resembling the pain of a cerebro-spinal meningitis. General unrest, nausea, vomiting and stupor are present. Fever may be added, but a cerebellar abscess may run a course of several months without fever. Of special cerebellar symptoms, ataxia, nystagmus and rotary vertigo are characteristic. This vertigo is usually rendered worse and vomiting is induced by movement of the body. (Bruns.) Hemiparesis and hemiasynergia are usually present in the side of the lesion, but these are not constant signs.

By an increase in the abcess, symptoms of pressure, precisely similar to those mentioned under tumor, may develop papillœdema, while atrophy is not infrequent in larger abscesses.

Actual puncture by special aspiration needle is advisable to clear up the diagnosis in complicated cases. Lumbar puncture is useful in excluding meningitis.

ASSOCIATED POSTERIOR FOSSA COMPLICATIONS.

Occipital Lobes. These may be pressed upon antero-superiorly by a foreign body growing upon or within the superior lobe of the cerebellum. Hemianopsia (mind blindness) may then occur.

Corpora Quadrigemina. Ocular palsies of a nuclear character occur, first on one side, then upon the other. The oculo motor and abducens

are more often involved than the trochlear. There is apt to be a paralysis of accommodation or changes in the pupils, and the loss of conjugate deviation of the eyes is frequently found. Implication of the posterior corpus and of the middle geniculate causes deafness, on one or both sides, and if the lateral geniculate be pressed upon amblyopia without papillœdema. Epiphysis tumors cause the same picture.

Cerebral Peduncles. If these structures are severely impinged upon the Weber-Gubler syndrome of alternate hemiplegia and oculo-motor palsy may be found. From milder irritative pressures one obtains the Benedict syndrome, oculo-motor palsy with tremor of the opposite side. If the lemniscus is impaired there is crossed anæsthesia and ataxia.

Pons. Here one finds a number of syndromes added to the initial cerebellar symptoms. Crossed hemiplegia with facial palsy (Millard-Grubler) and R. D., occasionally from a more anterior position of the pressure, there may be homolateral facial palsy without R. D. Crossed hemiplegia and abducens palsy. Both are usually associated with hypoglossal involvement. Conjugate deviation to the opposite side of the lesion is observed in these cases when the abducens nucleus is involved. Such conjugate palsies speak more for tumors within the pons. (q. v.) Crossed hemiplegia and trigeminus involvement is occasionally found, and also alternate hemiplegias with the cochlearis. Here the hearing defect is due to destruction of the intra pontine fibers of the cochlearis, or to pressure on the tuberculum acousticum.

Tumor of the Fourth Ventricle.—These may be considered here because of the cerebellar symptoms induced. These are for the most part glioma, sarcoma, psammoma, carcinoma. They give rise to symptoms due to pressure on the medulla and pons and almost always cause a marked hydrocephalus with advancing stupor and confusion. Cysticercus may also be found here. Bruns has called attention to the following features. Alternating periodicity of headache, nausea, vomiting, vertigo, changes in pulse and breathing, with let up of all these symptoms. The vertigo and vomiting are set up by changes in position of the head; sudden movement of the head may cause immediate unconsciousness. Cerebellar ataxia, mild nystagmus, occasionally diplopia are other signs.

One more word may be said about cerebellar tumors and their diagnosis. They may in the presence of few signs only, be mistaken for affections of the frontal lobes (fronto-cerebellar paths), parietal lobes (implications of central sensory components) and of the optic thalamus.

In frontal lobe tumors one usually finds special intelligence defects if carefully examined by modern methods. (Ziehen, Sommer, Kraepelin.) The tremor is apt to be very fine and rapid, hemiparesis, if present, is crossed and shows spastic phenomena; the speech disturbance is aphemic; the conjugate deviations are irritative and not paralytic. Then anosmia, apraxia, aphasia are often added. The skew deviations and hypotonia are not known.

Parietal lobe disease only occasionally offers difficulties, while the characteristic sensory disturbances and central pains of optic thalamus involvement should exclude these structures.

Cerebello pontine Angle Tumors. — These should be discussed here because of the symptom of cerebellar pressure and of vestibular involvement. Two main types of tumor come under review. Those from the pia of the cerebellum and those growing on or about the eighth nerve. Fibromata, myxomata, sarcomata are the most frequent.[14]

These tumors press upon the pons and middle cerebellar peduncle and the symptoms vary slightly according to the variations in pressure on these two structures. The eighth nerve is usually involved early, buzzing and deafness are observed. Facial palsy is usual and the corneal anæsthesia from pressure on the fifth, to trigeminal pain, is frequent. Ptosis may come on. Pressure on the cerebellum causes the typical gait and the ataxia, homolateral paresis and hypotonus. A contra lateral paresis from pressure on the pyramidal tracts usually develops. This gives the usual signs of a pyramidal tract involvement. Homolateral static tremor is frequent and a sense of subjective rotation towards the side of the lesion.

Treatment of Cerebellar Conditions.—Gummata must be attacked by usual antisyphilitic treatment, otherwise surgery offers the only opportunity and this is limited to the attack upon cysts which is apt to give fortunate results. The results of operations for abscess are improving as are also those upon tumors. But as each case is a law unto itself it is futile to generalize.

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PRECONCEPTIONAL, INTRAUTERINE AND CONGENITAL FACTORS IN THE PRODUCTION OF HANDICAPPED CHILDREN.*

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WITHIN recent years there has been a tidal wave of reform which has taken cognizance of the previously neglected physical condition of children and has resulted in a vast betterment of the physical, the mental and the moral state of childhood. The child of to-day is better understood, more skillfully treated and more scientifically cared for than his brother of a few years ago. But the writer feels that despite this splendid advancement, there has been a partial neglect of those factors which are instrumental in producing the very conditions which to-day we attack in our effort to eradicate them or their consequences. It might be well for us to pause for a time in our activities along these lines of relief and ponder upon the possibilities of prevention rather than of cure.

To be complete, one could not possibly disregard the immense subject of heredity, and yet as the purpose of this paper will be served by a brief review of some of the important preconceptional, intrauterine and congenital factors in the production of children who come into the world more or less heavily handicapped for the activities of life, the writer gives this as his reason for dismissing it without further comment. We are not to deal with the infant or child after it has reached the stage of individual and separate existence, but with the period which precedes this; a period with which we as practitioners are perhaps too little concerned.

For the sake of convenience and a clearer perception of the factors which the writer will consider, we might make this somewhat arbitrary but practical division of the three stages of antenatal existence.

(1) The germinal stage. This includes:

(a) The germ cells, the ovum and spermatozoon, which are liable to damage by constitutional disease at or near the time of conception or may suffer from nutritional changes at any time of their existence.

(b) The pre-embryonic period. This is before the differentiation of the impregnated ovum has begun and in this period it is liable to damage from morbid agents in the maternal blood.

(2) The embryonic stage of five to seven weeks during which period the different organs are being formed and may be affected through the placental attachment, after the third week of intrauterine life.

(3) The fetal stage, lasting for from thirty-two to thirty-four weeks, but not abruptly separated from the embryonic stage and representing the period of growth and development.

We must differentiate between heredity and transmission. Heredity affects the germinal stage; malformations and the monstrosities occur in the embryonic stage; although the liability to them may depend upon hereditary defects in the germ plasm. During the fetal stage there is the liability to the same diseases as occur after birth and in addition, extraneous agencies may arise which will result in various acquired peculiarities.

Any or all of these factors may be serious enough in their effects to handicap the child in later life.

With this introduction let us briefly consider some of these factors.

PRECONCEPTIONAL FACTORS.

A mass of both experimental and clinical evidence leaves no doubt that the constitutional state of the parents, before or at the time of conception may and does affect the spermatozoa and the ovum.

We are certain that any changes in the blood or in the tissues of either parent will affect in some measure the nutrition of the germ cells and through such alteration of the nutrition the fetus will be affected. And it makes little difference as far as the actual occurrence of change is concerned, whether such change in the blood or tissue of the parent is due to toxins, poisons, ferments, mental insufficiency or physical privation. The type and character of the altered nutrition determines what changes or lacks may occur in the fetus, some being slight and others serious.

And after conception has taken place, similar influences are active in affecting the fertilized ovum, if the mother's blood or tissues are involved. This possibility continues throughout the whole of intrauterine life.

What we might call the germinal period consists of two divisions: the very long period preceding impregnation and the very short but active one following after impregnation. In the former or preconceptional period there exists the dual life of the spermatozoon and the ovum, while in the latter period there is the unified life of the impregnated ovum. During the preconceptional period either factor or both may be affected by the general condition of the individuals.

And irrespective of this there may be present conditions of the blood or tissues which have been the product of an unhealthy ancestry which in turn will alter the nutrition of the germ cells.

Consanguineous marriages emphasize heredity and thus if there are any deleterious factors in the family these are brought out more prominently and certainly. However, we must recall that good health is just as transmissible

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as ill health, and while it is perhaps a good general rule to forbid the marriage of those who are closely related, yet there are always exceptions even to this rule. What ill effects are noted in consanguineous marriages are due to the operation of some hereditary defect which is present in the families of both parents and this tends toward deterioration of the offspring.

A much more potent factor in the production of handicapped children are those marriages which are undertaken too early or too late in life.

Insanity is sometimes the result of a morbid heredity and if present in either parent it may exhibit its influence upon the offspring either as insanity or some closely allied state of the nervous system in later life.

When the family tendency toward insanity in one parent is pronounced or is even present in a considerable degree in the families of both parents, certain of the offspring of such parentage will exhibit no unusual nervous phenomena during life, while the others will become insane. The same is true when one or both parents are insane.

Insanity which is distinctly acquired or accidental in the parent, provided it be limited to but one parent, does not commonly result in insanity of any of the offspring. Insanity in the mother coming on at any period of her pregnancy usually results in the death of the fetus, but apart from this it has no appreciable effect either upon the mental or the physical development of the offspring.

One does not inherit insanity, but mental instability may be inherited just as certainly as is physical weakness.

The apparent transmission of peculiar characteristics is most often the result of conscious or unconscious imitation. But on the other hand, there are instances in which the death of the parent or the early and prolonged absence of the infant from the parent is followed by the appearance and persistence of certain characteristics which closely ally the infant with the parent and serve to identify its parentage even to the most casual observer.

It is also possible that such peculiarities are transmitted through the agency of a more remote ancestry, but when we come to investigate this, the difficulty arises that the parents are willing to admit that all of the faults and none of the graces come from such ancestry and therefor any investigation along this line becomes practically useless.

Inheritance plus undesirable methods of education, training and environment are the chief factors in explaining the occurrence of these characteristics.

The transmission of physical characteristics is commonly observed and one of the best illustrations is in the case of the families of albinos. Superficial and slight mutilations are not transmitted, for they do not affect the blood composition and therefore do not affect the germ cells.

From what facts we have in our possession, we may safely conclude that congenital abnormalities which are entirely consistent with life but which may prove a serious handicap to the individual, may be transmitted and become more or less a feature of the particular family, provided that such abnormalities arise as mutations, due to some germinal factor.

Variations in the several offspring are due largely to the intermixture of dissimilar germ plasma, the spermatozoon and the ovum.

Mutilations are not reproduced and therefore as far as they are directly concerned as affecting the offspring they may be disregarded. But their possible creation of secondary factors affecting the parentage cannot be entirely dismissed.

The possible influence of alcoholism in the parents in its effect upon the unborn child has received a great deal of attention and study, but not always with the possible satisfactory results.

This has been so because the subject is one of the deepest human interest and has not always been approached scientifically or with a strict attention to its medical aspect. Instead there has commonly been introduced into the experiments and the conclusions drawn, the influence of preconceived notions and wrong impressions and these have complicated the discussion.

Thus through the influence of these unnecessary and unfair factors, the conclusions have often been distorted by personal feeling or belief and the result made less accurate.

Still, allowing for this unreliability, there have gradually emerged some fairly well established facts which might, for convenience, be divided into the experimental and the clinical.

In regard to the experimental facts; until very recently there was no absolute proof that alcohol passed from the mother to the fetus. However, in 1900, Nicloux by a series of very carefully planned experiments, proved conclusively as far as certain animals were concerned that alcohol was passed from the mother to the fetus and further than that, that the amount found in the fetal blood was approximately the same as that in the blood of the mother. This was irrespective of the amount given, for even minute quantities showed a similar distribution.

The same investigator then proved that when alcohol was given to a woman one hour before the birth of her infant, that alcohol could be recovered from the placenta and from the blood from the cord.

Now, while this is interesting, the question as to whether this presence of alcohol affects the fetus itself is much more important.

As a result of these experiments, each one of

us can reason in regard to the probabilities of such a drug's action upon the fetus. But probabilities should not be accepted as proven facts and unsubstantiated reason should not be allowed to lead us to what may soon enough become an extreme view.

Milan and Palazzi's experiments along this line were notable for their thoroughness and accuracy. Without going into unnecessary detail, let me say that their conclusions from experimentation with guinea pigs and rabbits gave absolutely negative results in so far as any detectable structural change was concerned.

We have all studied the clinical evidences in some few scattered cases, but as continuity is such a valued factor in clinical evidence as in other things, we turn to the investigation of Sullivan in 1899 in England. Of 120 inebriates carefully studied by him, the offspring numbered 600. Of these, 335 died before the age of two years; that is, 55.8 per cent. Taking 120 sober mothers in similar circumstances of life, the deaths in the children under two years, reached but 23.9 per cent.

For us, however, his further observations was more important, for he proved that the progressive death rate was greater in those with an alcoholic parentage. This illustrates very clearly what has been so frequently claimed: the progressive, augmenting character of the influence of the mother's alcoholism upon the resistance of the offspring's tissues. In fairness to the conclusions of this investigator, it must be admitted that he had his subjects under ideal conditions for study and what I shall immediately say does not in any way affect his deductions, but does apply to the conclusions of less fortunate observers or to those of us who have a more limited opportunity for observation. It is very common for observers to lose sight of the fact that after the birth of an infant of alcoholic parentage, there are many secondary factors which come into play and very materially influence the development of the offspring. The influence of such factors is often neglected when conclusions are drawn. There is commonly a sad neglect of the child as regards the food, the clothing and the general hygiene and care. It has been my own experience that such a child suffers more from the influence of the secondary factors than from the inherited debility. This is proven time and time again by changed environment.

In the natural course of events, the mother has the larger share of the care of the child and therefore maternal alcoholism is the greater danger.

Sullivan was able to prove that the earlier in her pregnancy that a woman takes to drink, the more certain will be the debility of her offspring.

If the woman be a drunkard, sober paternity has practically no influence upon the offspring. Upon the other hand, if the mother remain sober, an alcoholic ancestry seems to have but little effect upon the child. Sullivan studied seven cases conceived in drunkenness and of the infants born, six died in convulsions within a few months and one was still-born. But the same observer noted that when an inebriate woman was confined in prison in the early months of her pregnancy and the use of alcohol absolutely stopped, the offspring of that woman compared very favorably with the offspring of sober mothers, when an allowance was made for the other factors in her life. Such children seemed to exhibit the usual degree of resistance.

When we consider the dystropic or teratological effects of alcohol, we are still confronted with uncertainty. The evidences offered by such observers as Fere, Leter, Combemale, Lancereaux and others is quite conclusive that either paternal or maternal alcoholism, or both, are most important factors in the production of epilepsy in the offspring. We cannot well disregard the conclusions of these investigators, who while differing in minor details, are a unit as to the general conclusions. We must admit therefore that as far as this particular disease is concerned, alcohol is a potent factor in its production.

Bourneville made a close and careful study of 2,554 children who were classed either as idiots, epileptics, imbeciles, or suffered from hysteria and of these he found that 1,053 had an inebriate parentage. In 933 it was paternal, in 80 maternal and in 40 it was traced to both; 235 were conceived during parental drunkenness. It must be noted that of the 2,554 children, 1,501 were not classed as having an inebriate parentage.

It is exceedingly difficult to prove that the varied mental states mentioned are entirely or mostly the product of alcohol. It is easy to see how a primary mental instability or lack could be exaggerated or emphasized by alcohol, but even when we admit this, we must also make considerable allowance for the factors of physical deprivation consequent upon the alcoholic habit in the parent.

It is reasonable to conclude that with the few facts that we have at our command, both experimental and clinical, and a disregard for the many distorted theories and probabilities that are thrust upon us, that parental intemperance is itself commonly due to a neurotic heredity, and that if this tendency be emphasized by disease or privation which exerts any marked influence upon nutrition, there occurs both a mental and a physical degeneration in the offspring which is really the cause of the idiocy, the feeblemindedness, mental or moral deficiency and creates a general neurotic temperament.

As regards the question of the hereditary transmission of a craving for alcohol, the writer is not prepared to enter. It is a common observation that the children of a drunkard do not themselves become drunkards and the most that we can conclude from the facts that we have at hand is, that these children inherit weaknesses

which show in many directions and it is possible that one of these may be a proneness for alcohol.

My own conclusions based upon the few facts that we have and supplemented by a careful study of these children is, that an alcoholic ancestry is of small importance; that maternal alcoholism is very dangerous if persisting well through pregnancy and that the secondary factors which occur as the consequence of alcoholism in the parent, are the most important ones in the production of non-resistant children.

Intrauterine or Congenital Factors.

It is rather difficult to attempt an arbitrary division because many of the intrauterine or congenital factors overlap the pre-conceptional ones. For example, if the parent be the subject of tuberculosis, rheumatism, syphilis or other infective disease, this in itself may greatly affect the nutrition of the impregnated ovum and the fetus during the whole of its intrauterine life.

Thus the general health of the mother is a decided factor in the production of healthy offspring. Without enumerating them, we may say that all the factors which result in prematurity may be less active and result in congenital disability, so that instead of the death of the fetus there is produced in the survivor physical deficiencies which are not sufficient to result in immediate death, but do result in physical underequipment. Examples of these are atelectasis, congenital defects, the various forms of inanition and general atrophy.

While it seems true that nature reverts to a type, so to speak, and does not readily transmit the inferior physical characteristics which are acquired solely through evil environment, but chiefly if not only, transmits those characteristics which were present in the individual at the time of birth, yet we must not lose sight of the fact that much can be accomplished in overcoming all vicious tendencies through attention to the nutrition of the fetus through the mother.

It is impossible to disregard the abundant experimental and clinical data which proves that an ill-nourished mother exerts in a remarkable degree, an injurious effect upon the child.

It is a common and very obvious fact that city or town life is disadvantageous to the pregnant woman and that it must have some influence even though slight in the development of the fetus.

But there is a feature common to city life which has a marked influence and which must be considered. I refer to the employment of women during the period of their pregnancy. There are injuries to the woman which must affect the child; injuries directly due to the machinery which she is compelled to use; injuries from dust, poor ventilation, insufficient sanitary conveniences; injuries due to overstrain; fatigue; long hours; insufficient periods of rest; injuries, in fact, to both mind and body, to which no pregnant woman should be subjected.

And thus economic conditions force the woman to approach the puerperium unequipped for the ordeal and not in a physical state to bear healthy children.

The better the general environment of the mother, the better it is for the child in utero, although healthy infants have been born of mothers who suffered many privations. Nature seems always to attempt to adjust matters so that even under the most deleterious conditions, the infant at birth may seem strong; but the real test comes within a few months and when the stress of trying to survive comes upon such infants, they either succumb or live through the struggle, handicapped for life. Lack of proper exercise in the mother; deficient nutrition; strong emotion and mental excitement, all tend to reduce the vitality of the fetus.

With our present knowledge it must be admitted that abdominal injury and pressure have an unfavorable influence upon the development of the fetus, although such influence is not great. But having admitted such an influence we have in no way satisfactorily explained its mode of action.

We are still in doubt as to whether the fetus is directly injured in part or the uterus, placenta or amnion are so affected that they react upon the developing embryo or fetus. The latter seems the most plausible.

From an impartial study of the instances that have been advanced to substantiate the theory of maternal impressions, the conclusion drawn has been that such instances have been accidental coincidences and not actual effects and that the theory of maternal impressions has been an unfortunate one because through its siren influence many instructive cases of fetal disease and deformity have been lost to investigation. That continued or marked mental conditions in the mother may affect the offspring must be admitted, although it must also be recalled that the effect is not always teratological. In fact, abortions, sterility, congenital debility, retarded growth and development and offspring exhibiting a high mortality are the more common results.

It is not necessary to go into much detail in regard to the infectious diseases. Smallpox has been conveyed to the fetus when the mother had the disease and also when she has only been in contact with it.

Cases of fetal malaria, measles, influenza, pertussis, typhoid fever, erysipelas, scarlet fever and tuberculosis have been recorded, nor are these the only ones. These are mentioned because they show the possibilities, but unless they influence the premature birth of the fetus or arrest its development, they do not markedly influence its after-life. Those diseases which we are compelled to consider seriously, however, in their possibilities for the production of handicapped children, are especially tuberculosis, syphilis and rheumatism.

The modifying effect which the placenta has upon fetal morbid states has been the subject of much discussion. Out of the mass of theories, we glean this:

(1) That the position of the placenta makes it possible for the fetus to be diseased in structure to a considerable extent without interfering with its vitality.

(2) That the placenta does not *always* act as a filter and that even its reputation as an occasional prophylactic factor is open to considerable doubt.

(3) That the opposite view from the two preceding statements must be taken and that we must consider the placenta as the chief if not the only factor in the access of germs to the fetus.

(4) That lesions of the placenta are very dangerous to the vitality of the fetus.

(5) That through its disordered metabolism, the placenta may become a real danger to the fetus, either by the actual production of toxins, the increasing of the virulence of germs present or by weakening the defensive arrangements of the fetus.

The toxemias which exert their ill effects upon the fetus and thereby interfere seriously with its perfect development resulting in the production of a premature or immature infant are mainly the metallic poisons such as lead, mercury, arsenic and phosphorus and alcohol which has been given special mention. The greatest danger from the metallic poisons is, of course, from prematurity, but even irrespective of this, there is the lesser danger of epilepsy, idiocy or imbecility.

It must not be overlooked, however, that all toxemias of every kind, arising from general causes, may seriously interfere with the normal development of the fetus. For example, a constipated habit which has practically no influence in the non-pregnant state, may so affect the woman who is pregnant that the infant will suffer thereby. Constipation during pregnancy is always a handicap to the fetus. Antenatal tuberculosis will serve us as one of the best illustrations of what may occur in the offspring as the result of parental disease.

While tubercle bacilli have been demonstrated in the semen, it is not reasonable to suppose that the organism could be directly carried and infect the ovum. It might readily affect the nutrition of the sperm cell and render it less capable of impregnation, however. And the same is true as regards the effect upon the ovum.

From Sitzenfry's observations, made in 1909, it must be admitted that any tuberculous mother is liable to exhibit disease or evidences of malnutrition in the placenta. But her possibility of then permitting the transmission of the bacillus with a general blood infection of the fetus is so small that such a consequence is rare.

Now while the probability of the infant being born already affected with tubercle is very slight, yet there are associated dangers which we cannot disregard. There is abundant evidence of the fact that the infant of a tuberculous parentage is born with diminished resistance, and that in addition there may be actual deformity which act as disabling factors. Given this weakened organism, the resistance to the tubercle bacilli from the outside is decidedly diminished and in this sense we might rightly say that the tendency to become tuberculous is transmitted. However, we must make this reservation; that it is not a transmitted tendency always to become tuberculous, but is a transmitted tendency to offer a lowered resistance to the invasion of all forms of pathogenic germs and their associated toxins. The writer believes that much confusion has resulted from the fact that it is so commonly expected that whatever transmission there is from a tuberculous parentage is exclusively toward tuberculosis, while the real fact is that a tuberculous parentage is always dangerous to the child because of a general and not a special weakened resistance.

Syphilis is a disease which heavily handicaps the infant, first for existence at all, and secondly, for proper development and growth.

Irrespective of the mortality damage which this disease may occasion, it may force the infant from its uterine environment, handicapped by deformity or structural weakness which is so great as to make early death preferable. Thus the syphilitic if he lives has not only his congenital condition to combat, but he is made thereby an easier victim to most other diseases. Ordinarily we think of congenital syphilis only as it shows in a more or less virulent infection. But there are more commonly the transmission of constitutional changes which are the result of the specific poison in the parent. The clinical manifestations of these changes in the child are in more or less marked general disturbances which are not traceable to any other cause.

If we consider the first type of cases alone, we are taking a very narrow view of the disease, for then we only study the changes which are consequent upon the direct transmission of germs. In the other type we are not of necessity dealing with that situation but with a constitutional transmission which is resulting in the various anomalies which we observe in such cases. These are dependent upon and connected with the destructive effect of the disease upon the general health and condition of the parents. In other words, we commonly observe infants exhibiting tissue changes which are attributable to syphilitic infection, but without evidences of the usual syphilitic lesions.

The handicapped boy or girl of to-day is receiving more adequate attention than at any previous time in medical history. But the

writer feels that with the substitution of the new for the old; of the up-to-date for the out-of-date, there may come the unconscious relinquishing of those things which are of known value. Splendid as are the present day achievements, our whole duty is not accomplished when we have striven to make a better environment for the handicapped child. We cannot afford to neglect those many factors which are responsible for the continued production of this type of child.

SOME ASPECTS OF MEDICAL EDUCATION.*

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JOHN HUNTER'S reply to Edward Jenner, who expressed an opinion on certain aspects of hibernation in animals was: "It seems quite probable. But why think? Why not try an experiment now and know?" John Hunter and every man who achieved greatness in any branch of medicine, attained that eminence by the rigid pursuit of the scientific method, and not by the application of established dogma or precedent, thoroughly mastered and firmly held in memory. This is the text for what I have to say concerning medical education.

One of the first reasons laid down for the association of physicians into societies was to improve the methods of medical education. From no body of men can come the ultimate decision for what is right in this matter save from the rank and file of the profession itself and it is for this reason that we have it as a duty to become thoroughly informed as to what has been done, what is being done and what should be done in this field of education.

Of the past it is not necessary now to speak.

What is being done to-day is the result of the work of The Council of Education of the A. M. A., of the Association of American Medical Colleges, of state educational authorities and of outside students of methods and results, chief amongst which is the Carnegie Foundation for the Betterment of Teaching. Let us analyze these very briefly.

The Council of Education of the A. M. A., has done careful and valuable work. Its conclusions, boiled down, are as follows: First—A candidate for the study of medicine must have adequate preparation and such preparation cannot be considered sufficient by less mental culture than is attained by a student who has successfully passed through at least one year of college work, during which he must have had a competent course in physics, chemistry, biology, one foreign language, preferably German, and enough Latin to enable him to appreciate the language of science. Second—The fundamental sciences, viz; anatomy, physiology, physiological chemistry, pharmacology, bacteriology, pathology, and clinical diagnosis must be pursued in laboratories thoroughly equipped for students to do for themselves all work upon which deductions of permanent value are to be made. Such laboratories should be under the supervision of skilled teachers and assistants who devote all their time to instruction and to research. The experimental method only is recognized as valid, and lectures are to be used simply to assemble the facts established and to lay out the program of work to be done. Third—The work of the second half of the period of study should carry forward the laboratory method into the hospital ward and the science and art of medicine, surgery, obstetrics and their various specialties should be taught clinically almost all together, reserving to didactic instructions only those forms of diseases and injuries that are not common in urban hospitals.

Over these general conclusions there can be no dispute with those who are acquainted with the subject of education in medicine. The preparatory work is underestimated of the two, as is evidenced by the fact that several states and universities require more than one college year. At the end of the sophomore year of the college course there is a natural break, at which period it is generally recognized that a student should have the privilege of electing for himself the subjects upon which he can most profitably expend his energies. That period in American colleges corresponds to the period at which a university career is entered upon in Germany, England and France.

The laboratory method of education has been adopted quite generally and has proved so successful that no one would think of returning to the old way of teaching the fundamental subjects. The necessity of trained teachers is also recognized as essential.

The clinical method of teaching the junior and senior years is also recognized as most desirable. The only question not yet definitely settled is how this can be done acceptably. We shall consider that under another heading.

The object of the Association of American Medical Colleges has been to standardize medical education in the better colleges in the United States. This association has been compelled to adopt a somewhat lower standard of preparation, because it comprises all reputable medical colleges in all the states of the Union. It has not been able thus far to advance its entrance requirements beyond a four years' high school course, which must include Latin, German and physics. At its latest meeting held in March, in Chicago, it adopted unanimously a resolution saying that the high school course must be completed without conditions.

This association has adopted a uniform mini-

* Read before the Fifth District Branch, at Utica, October 5, 1911.

mum curriculum which has been carefully considered and well represents that observed by good medical schools. It requires, however, 4,000 hours during the four years' course of medicine and apportions those hours definitely. I believe that this is an unnecessary excess for the average student and that it inflicts hardships which are not desirable. Furthermore, it makes a course inflexible and, by its excess in time and rigidity in apportionment, gives no opportunity to the student for individual development along the lines of greatest interest to him. At a time when there is opportunity for those who would devote themselves to the pursuit of the science of medicine along original lines, this is unfortunate.

The Carnegie Foundation for the Betterment of Teaching has done an inestimable service in publishing a careful summary of the history of medical education and methods and in setting up an ideal standard to be striven for. That standard is not theoretical, but is based upon what has actually been accomplished in Germany and in other of the most advanced nations, and is one that every school should erect for itself as an ideal worthy of attainment. It involves the fullest preparation by a complete college course, the most competent laboratory courses, under the best trained men for the first two years and the laboratory method in clinical instruction in college-owned hospitals under paid professors, who devote all, or most of their time to such work. There is a general recognition of the desirability of the teaching hospital. But the expense of medical schools has increased so enormously that the addition of this adjunct to a medical college is not yet attainable by many colleges which have earned universal respect for their good work. The re-adjustment of relations between medical schools and existing hospitals, private, municipal or state, becomes desirable, if not necessary; and, in the opinion of the writer, it is easily possible to accomplish. There is no longer any question but that those hospitals in which the greatest freedom in medical teaching is permitted are the ones which enjoy the highest reputation for usefulness and efficiency amongst the people, and are the ones which best subserve the interests of the sick poor. Such hospitals, served by members of the profession who are under the constant observation of keen-eyed and keen-brained students, have of necessity a service which cannot be perfunctory and can never be neglectful of a single detail in diagnosis or treatment. It is a necessary conclusion that such service inures to the benefit of the patient and to the reputation of the hospital. The days when it was feared that the study of patients in a ward would compromise their chances for recovery or would offend the sensibilities of their friends are gone forever in every intelligent community.

The state demands such an education as will secure for the people competent practicing physicians. As would be supposed, the ideals of the several states are not identical. Eight states demand a preparation for medical study equivalent to the first two years of a college course. Several more demand one year of college work. The great majority recognize a high school course as satisfactory and most of them permit conditions in this course. A few states make no preliminary demands. A curiosity in educational demands is shown in these state requirements. While some of the states that have been denominated "wild and wooly" make the highest requirements for entrance to medical study, the great states of Massachusetts and of Pennsylvania make practically none.

The state requires that a student shall spend four years, of at least thirty weeks each, in the study of medicine. At the end of that period the state requires that a student shall pass all examinations in the fundamental branches of medicine, with the exception of therapeutics, before he shall be permitted to practice. Such examinations hitherto have been mostly written tests of a man's information and have in no way tested his knowledge. A few states, Minnesota in the lead, have made their examinations practical and requires them to be carried out in laboratory and in hospital wards. To this method all states must come if their examinations shall really disclose more than a man can cram from a "Quiz" Compend.

We now come to the consideration of what is wrong that has developed under the stimulus of these various forces of influence and what measures should be inaugurated to counteract them.

First—It will be conceded by all, I think, that medicine to-day is such a great study, its demands so exacting, its field so extensive, its importance to the community so compelling, that only he who has a well-trained mind can enter upon its successful pursuit. The two years' college course may well be considered a minimum requirement for entrance upon it. But if we agree upon that, it means that a man must give to the preparation for his life work all of his energies until he is of an average age of, at least, twenty-five years. During all of that time he cannot be self-supporting. Such a situation is possible only for those who can command means for their support and the expense of their education from their parents far beyond the average period during which a young man is ordinarily willing or able to be dependent. It might and does shut out from such training young men who are gifted in intellect and are of such genius and high purpose as have been many boys who as men have become the glory of medicine. Such a condition can be met in only two ways. The state must undertake the education of the physician, or scholarships must be established in university medical schools which it shall be the laudable ambition of chosen young men to win by merit. In our country the middle west is advancing rapidly along the first of these paths and some of our best medical schools are being developed in connection with state universities.

In the east, the long-established medical schools of prominence and value can hardly be expected to give way to state colleges or to favor their development. In such there is urgent need for the establishment of many free scholarships. It might well be the province of the Medical Society of the State of New York to secure such scholarships and to award them to worthy students, who should be permitted to enjoy their advantages in colleges recognized as worthy by the state society which the student himself, from his environment, should select. It should be the object of educational institutions and of societies to facilitate the course of men of brains and of special gifts rather than to hinder. By so doing they can best subserve the interests for which they are organized and best serve humanity. As medicine makes so much greater demands upon the time and energies of young men in preparation for active work, by so much the more should the attention of a generous public be called to this field for the exercise of discriminating help.

Second—In the two years of laboratory work there is often a waste of time to the student who intends to practice medicine and a failure to correlate the courses one to another and to those of the clinical years beyond. The laboratory teacher, whether he be a physician or not, sometimes becomes myopic and sees only the importance of the particular subject which interests him most. It is easy to magnify one's office. But in the making of physicians it cannot be forgotten that the student is not to be primarily an anatomist, or a physiologist, or a chemist, or a pathologist, but he is to be a doctor and, to become such, each science must be closely related to the others and all to those advanced studies in diagnosis, the natural history of diseases and, above all else, to therapy. To that end it is impossible for the student to give time to the pursuit of any individual subject to the point of complete mastery. For such an end a lifetime is too short and no one knows that better, when he stops to think of it, than the master-mind who is guiding the student in the laboratory. There is needed a controlling agency in every medical school which shall so correlate all the subjects studied as to make possible the turning out of a student who knows essentials and who knows how to pursue further any particular subject of chief interest to him and who should have time and opportunity for research work in college.

Third—The curse of the junior and senior years is the retention of any lecture courses which are intended to inform students without giving them knowledge. It is like the appendix or the tonsil, a reminiscence of a once valuable organ in a lower scale of being.

The junior should be taught the natural history of all experimental diseases by actual observation and should thus learn methods for their detection and identification and the use of such remedial measures as will check them or control their most serious manifestations. He should learn the details of asepsis in surgical proceedings by practice in asepsis. He should make himself possessor of the fundamental principles upon which the art of medicine, surgery and mid-wifery are based by observation to the fullest possible extent.

To the senior should be given the opportunity and the duty of the reception, the examination and the management of the sick and injured in hospital wards and dispensaries under the guidance of teachers responsible for the welfare of such patients. I have expressed it as my opinion that such work can be done in hospitals not actually owned by the college. Such ownership and the control that goes with it is most desirable, but the improvement of clinical teaching to a point not justly open to criticism is being brought about in several medical schools that do not and cannot own their own hospital.

To this audience only large and general rules can be expressed. Details are for the schoolman and are not such as can be drawn out to the point of weariness here. But this rough outline of what should be the aim of the medical profession at large to stimulate in all of our schools I believe to be right at this moment. Education is in flux. It is never stable. What seems a truth to-day may to-morrow be revealed as but a half truth. We grasp what is in sight to secure what is better beyond and we advance by such methods. The ideal is always just ahead and woe is he who believes that he has attained it for to such there is no ideal.

Fourth—It is a function of the state to safeguard her citizens. In medical education there should be considered, on the one hand, the needs of the people and, on the other, the experience of medical teachers. Skill in treatment is of more importance to the mass of the working people of the state than to any other class of her citizens, for to no one else is the prolongation of sickness or of convalescence from injury so disastrous. Consequently, the state should exact the highest standards of fitness from those who would take upon themselves the care of the sick and injured. The state should pay heed to the experience of the world in medical education and should solicit the expression of opinion upon this question, which can emanate authoritatively only from organized medical societies. The conclusions of the council on education of the A. M. A., are advisory only. They can be made compulsory only by the formulation of such a strong assent to their provisions as shall influence those placed in authority in educational matters. I conceive it to be the duty of the state, through a thorough understanding of the demands of education, as formulated by broad-minded educators, to establish a minimum curriculum covering the essentials for the general practitioner. Such a curriculum would be obligatory and it would give opportunity for electives that would also be obligatory up to a certain point, as, for example, up to the total requirement in hours adopted by

the Association of American Colleges. Such a curriculum would not include surgical operative proceedures, general or special, for the state will soon protect its citizens from the unskilled by demanding an extra year's training in technique and in surgical pathology, diagnosis and experience from those who would enter the field of operative surgery.

The day of the old proprietory school is gone forever. There are no longer any interests to consult but those of the people and the great universities. With both of these the organized medical profession should be of sufficient influence to secure such advances in educational requirements in medicine as will assure the greatest benefits to the people.

FRACTURE OF THE TARSAL BONE.*

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ALTHOUGH several contributions on tarsal fractures have appeared, nevertheless, the author has no apology to offer in presenting this study for the reason that a large percentage of cases of fracture of the tarsal bones are still wrongly diagnosed and treated in the best fracture clinics.

Many of these cases are diagnosed and treated for sprain, contusion, Pott's fracture, or if the injury is of long standing and has not seemed severe, for flat foot or rheumatism.

This error in the diagnosing of these conditions is due in a large degree to the failure to use the Roentgen ray, either inaccurately or not at all. The frequency of tarsal fractures is emphasized by Cabot and Binney, who state that in eleven years at the Massachusetts General Hospital, 204 cases of Pott's were treated and 83 cases of fracture of the astragalus and os calcis in the same time.

The type of injury which produces these fractures, is usually a severe blow on bottom of feet, as a fall from a height usually greater than ten feet, but occasionally a much less trauma, as alighting from a moving car or merry-go-round, is sufficient. And these latter cases are the ones which are often diagnosed as flat foot or rheumatism. Muscular force of the powerful gastronemius and soleus muscles often pulls off a part of the heel portion or produces a fracture through the body of the calcaneum.

It is difficult to determine by exactly what mechanism these fractures are produced, because the various factors involved are many. The conditions differ materially from that which exists in fractures of long bones not situated in such close proximity to many complicated joints. And it is obviously impossible to ascertain the amount of equinus, varus or valgus the foot happened to be in at the time of injury. The tibia many times acts as a battering ram, transmitting the full weight of the body and either causes a crushing break of the astragalus or drives its posterior part down into the os calcis. In this event the anterior fragment is often displaced upward, thus locking the foot in the equinus position, from its impingement on the anterior part of the lower end of the tibia. Another frequent condition met with is a communition of both astragalus and os calcis at the posterior border of the former bone. This condition is often overlooked even when good skiagrams have been procured, on account of inexperience in X-ray interpretation. The author has had several experiences of this kind, that is, men with no legitimate reason thought themselves capable of interpreting skiagrams failed to see the comminution and made a diagnosis of a sprain. Or again, the force may be entirely transmitted through the astragalus and expended on the os calcis, causing a variety of comminuted fractures or a linea fracture through the body, usually just under posterior part of the astragalus. The speaker has seen no cases of isolated fractures of the sustentaculum tali, but has found it only an incident to a crushing fracture of whole anterior part of os calcis. Other causes for fracture of the os calcis are direct violence and contraction of the muscles attached to the tendo Achilles. However, fractures of the os calcis are in a great majority of cases true compression fractures and are generally due to a fall from a height onto a hard floor. In this instance the astragalus is not often fractured on account of its being protected from the direct force of the blow, by its situation between the two malleoli and possibly to the crescentic contour of its upper articular surface.

The astragalus as has already been suggested from its protected position is much less likely to suffer from crushing traumata, nevertheless it is sometimes fractured in this way. Hamilton reported one case in ten fractured by direct violence. Gaupp found sixteen out of sixty-one cases. The description of all the possible types of fractures of these bones would be of doubtful value and an endless task. Even by means of right angled skiagrams, it is of the greatest difficulty many times to make out the exact details of the fracture. It is here that stereoscopic skiagraphy is of great value.

The astragalus may be divided clinically into two parts, a protected part on the body and an exposed part on the head and neck. The former part is almost always broken by a crushing or transmitted force, similar to that which results in a fracture of the os calcis. The body of the astragalus may be split into two or more fragments or may be severely comminuted. The head and neck are exposed to direct crushing blows on front of foot and to twisting strains. A case in point was that of a male, 45 years old, referred to the author's clinic at Roosevelt Hospital for flat foot. A carefully taken history disclosed the fact that three years before he had

* Read before the Medical Society of the State of New York, at Albany, April 18, 1911.

FIG. 1.—Fracture of the astragalus, with the posterior portion driven downward. Foot locked in equinus. Bony union when seen nine months after fracture. Excellent result obtained from removal of bone obstructing dorso-flexion. This case was, primarily, diagnosed Potts' fracture in a large clinic.

FIG. 2.—Old fracture through center of the os calcis. The arch of the foot is almost entirely obliterated, on account of the pull of tendo Achilles and weight bearing, displacing the posterior fragment upward. This is the usual unfortunate result unless mechanical measures are taken to prevent it.

Fig. 3.—In this case the astragalus has escaped, but its posterior extremity has been driven down into the os calcis, thus producing a comminution of that bone. This fracture is often overlooked even when a good skiagraph is obtained. In fact, the fracture shown, so clearly, in this X-ray negative, was overlooked by men of considerable fracture experience.

Fig. 4.—This is a fracture produced by muscular violence. This patient's tendo Achilles pulled off the upper part of the os calcis, into which it is inserted, as the patient jumped from a wagon.

stepped off a moving merry-go-round while it was still in motion and received a severe twist of the foot. He went at the time to one of our best hospitals where he was told he had a sprain, and was treated accordingly. Pain and crepitus was a constant symptom ever since. He had a fracture of the astragalus through its neck. The pain in this case was principally located under the external malleolus, which by the way, is a very frequent complaint, and is undoubtedly due to faulty static condition produced. It usually responds to intelligent flat foot treatment. However, if there is an overgrowth of bone in old cases at this point, removal will be necessary.

The treatment is immobilization for four weeks, absence of weight bearing for six weeks, passive motion and massage to the end of the second month. These rules hold for both astragalus and os calcis.

In putting up a fracture of the astragalus a plaster bandage should be applied with especial attention to the position of the foot, which should always be at right angles to the leg and without inversion or eversion; valgus or varus. Any loose fragments from the upper articular surface should be removed.

If a fracture of the neck has occurred and the head displaced, it should be replaced by an incision if necessary, or removed if completely detached. If the body of the bone has been rotated or displaced it should be restored. If there is a severe crush or comminuation a complete astragalectomy will undoubtedly yield a better functional result than conservative treatment.

In a fracture through the center of the os calcis it is necessary to counteract the deforming effect of the powerful muscles attached to the posterior fragment.

This has been accomplished in several ways. Cotton and Wilson did this by passing a stout steel pin across in front of the tendo Achilles and forcing the posterior fragment forward and downward. The author believes this is best accomplished by a tenotomy of the tendo Achilles and fixing the foot in plantar flexion so as to relax the posterior ankle ligaments and soft tissues as well as the gastronemius and soleus muscles. Especial attention should be given to fix the foot in a slightly varus position.

The skiagram has shown that fractures of the scaphoid are not so uncommon as formerly supposed. The mechanism is apparently compression between the astragalus and the cuneiform bones. The symptoms are a marked prominence over the inner aspect of the dorsum and inner side of the foot in the region of this bone, and tenderness when this prominence is pressed upon.

Fursterer thinks a characteristic symptom is the fact that while compression of the foot, from heel to toes, produces pain, weight bearing causes much less.

Very little can be said about treatment. If the displaced fragment can be reduced and the foot held in inversion we may expect a good functional result. If this is impossible on operation to remove the whole bone or the offending fragment is indicated. The foot should then be put up in a plaster in the inverted position for four weeks, followed by an arch support.

Fractures of the cuboid and cuneiform bones are rare and occur as a result of a smashing injury of the foot. There is nothing peculiar in their treatment or prognosis. A good general rule in all tarsal fractures when the facilities for making an exact diagnoses are lacking, is to put the foot up in inversion and strong dorsal flexion.

Conclusions.

1. Direct traumata to the plantar surface of a foot is very likely to cause a fracture of the tarsal bones.
2. Every case diagnosed flat foot, whenever a slight injury has occurred, should be examined for a fracture of the tarsal bones. This should include an X-ray examination.
3. An important feature in the treatment of fresh fractures is to keep patients from weight bearing for at least six weeks and then only with the aid of an arch support for two or three months longer.
4. The best results are obtained in the treatment of fresh tarsal fractures.
5. One of the essential features in the management of these fractures is attention to the changed static conditions. This is especially true in the old neglected cases.

GUNSHOT WOUNDS OF THE PREGNANT UTERUS.

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THE number of reported cases of this character is so small that no definite conclusions can be drawn. It would seem that each case must be decided on its merits.

The indications for opening the abdomen are the same as though a pregnancy did not exist—for other viscera may have been injured—plus the possibility of peritonitis from the escape of uterine contents and of hemorrhage from the injured uterus. It is the writer's custom to explore all penetrating wounds of the abdomen which present even the slightest half-hourly rise in temperature or acceleration of pulse. If these symptoms do not develop it would seem wise to wait. Having opened the abdomen, however, and not finding any serious injury to any of the viscera except the uterus there is room, perhaps, for a difference of opinion as to subsequent treatment. The first question to decide is whether to empty the uterus by Cæsarian section or to suture the wound or wounds in the uterus, wash out the escaped amniotic fluid, if complete perforation has occurred, close the abdominal wound and await the expulsion of the fetus. If the injury to the uterus is exten-

sive as when fetal parts protrude, it is best to enlarge the uterine opening, empty the uterine cavity, dilate the cervix from above for drainage and suture the uterine wound. This would seem best at any stage of the pregnancy. Should the uterine tissue be much torn hysterectomy may be necessary.

Aside from the extent of the injury to the uterus itself the effect of the subsequent and inevitable miscarriage—if the uterine injuries are simply sutured—upon the abdominal wound should be considered. If the fetus has reached the viable age a Cæsarian section should be done, otherwise the uterus should be rapidly emptied from below; by either course the abdominal wound will be conserved. If of a viable age Cæsarian section gives the fetus a better chance for life, particularly if as is apt to be the case there has been an intra-abdominal escape of liquor amnii presaging a slow dry labor in a uterus whose musculature is weakened by trauma and which can be helped but little by a recently sutured abdominal wall with the added danger of rupturing the sutured uterine wound. These dangers will be less the more recent the pregnancy. This is shown in a case reported by Albarran, that of a woman nineteen years old, four and a half months pregnant, who shot herself in the abdomen with a revolver. The wound of entrance was located four fingers breadth to the right and at the upper level of the umbilicus. The patient was semi-comatose and in shock. Laparatomy was done five hours after the accident. A long median incision showed the following: on opening the peritoneal cavity there was an immediate escape of a quantity of blood and serum estimated at two quarts. There were four wounds in the upper third of the ileum in pairs, the upper two separated by an interval of 20 cm. from the lower two. A portion of the intestine including these four wounds was resected. A fifth wound found near the duodeno-jejunal juncture was sutured. A wound of the mesentery was sutured. There was a wound in the fundus of the uterus through which presented a loop of the umbilical cord to the extent of 45 cm. and there was considerable hemorrhage from this wound. A second wound lower down on the posterior wall and a little to the left extruded a portion of the umbilical cord which was removed and its stump ligated and pushed into the interior of the uterus. The two wounds of the uterus were sutured with silk. The abdominal wound was closed except at the lower angle which was left open for the emergence of two iodoform gauze strips. Forty-eight hours later the fetus was expelled. The patient was up and about on the seventh day.

I can find references to but eleven other cases. My own case in which operation was successful in saving both mother and child is as follows:

B. K., aged 19 years, was admitted to my service in the German Hospital, September 23, 1910, with the following history. Two hours before admission this patient, eight months pregnant, was shot in the abdomen by her lover. The weapon used was a 32-calibre revolver. The revolver had been pressed against the left side of the abdomen and fired in a downward direction from left to right. The patient suffered no pain for the first half hour following the shooting and no shock; she remained standing during this time waiting for the ambulance. About one hour after the shooting uterine contractions began and kept recurring at intervals. There was no vaginal bleeding and no escape of liquor amnii from the vagina. Temperature 98; pulse 100; respiration 28. Examination showed a patient of good physical condition, somewhat pale; there was not much shock. Abdominal examination disclosed a bullet wound midway between the anterior superior spine and the umbilicus on the left side, another about four inches above this on the same side. These were both wounds of entrance and showed powder marks. There were two wounds of exit, one just above Poupart's ligament in the right groin and the other two inches below Poupart's ligament in the thigh. The abdomen presented the appearance of an eight-months pregnancy. The uterus was firmly contracted. There was some tenderness in both flanks and slight tenderness over the entire abdomen. Under chloroform-ether anesthesia the wounds of entrance were explored; the lower one was found to proceed in a downward and forward direction to the wound of exit in the groin; the upper wound of entrance went directly into the abdomen in a downward and inward direction. The abdomen was opened by a left rectus incision. A large amount of bloody fluid with some large clots were evacuated. Search of the small and large intestine and their mesenteries showed no injury. There were two places where the omentum had been bruised by the passage of the bullet. Examination of the fundus of the uterus showed a perforation at that point. Another wound was found in the left cornua just in front of the Fallopian tube. The uterus was firmly contracted. The abdominal wound was enlarged, the uterus brought out over the pubes, a large pad placed behind the uterus and Cæsarian section performed. The baby lay in the R. O. A. position. It was pale in color. The cord was clamped and cut, and the baby handed to an assistant who after an interval of some five minutes succeeded in resuscitating it. Examination of the baby showed it to have a wound involving the middle finger, ring finger and little finger of the right hand. There was no blood or liquor amnii in the uterine cavity; the placenta was removed, the cervix dilated from above and the Cæsarian section wound in the uterus closed with continuous chromic gut in two layers. The bullet wound in the left cornua was closed with chromic gut. The bullet wound of the fundus had been included in the Cæsarian section wound.

The abdomen was filled with saline solution and closed with layer sutures of chromic gut, the skin with silk. Both mother and child made an uneventful recovery. An X-ray examination of the patient showed but one bullet and that lying about 1½ inches from the femur and 1½ inches below the level of the great trochanter in the inner part of the thigh. From the fact that there were two wounds in the uterus, one at the fundus and one at the left cornua it must follow that two bullets entered the abdomen through the same opening. The patient herself says three shots were fired against her. Both of these bullets went through the uterus, though in neither case could the wound of exit be demonstrated. In fact no extended search was made. There was at no time in the after course of the case any evidence of peritonitis though all of the liquor amnii had escaped into the peritoneal cavity.

Final examination, September 18, 1911. The patient is in perfect physical condition, the scar is firm and strong. She is in the fourth month of pregnancy.

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THE CONSERVATIVE TREATMENT OF ACUTE INFECTIONS.*

By C. W. LOUIS HACKER, M.D.,
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"WHEN a person is ill, nature and disease are fighting each other. The doctor comes and—if he strikes the disease, the patient will recover, if he strikes nature, the patient dies."

The subject of acute infections is of most interest to the "family physician" for the reason that these cases first apply to him for treatment. Before the discovery of bacteria and their relation to disease, inflammation was considered a destructive process and many patients died because the treatment had disturbed nature's defenses.

Hilton in his lectures on "Rest and Pain," said, "This subject at first sight may appear to have but a small application, especially when looked at through the biased vision of those who think that in the treatment of disease or accident everything is to be done by medical or surgical means."

The rapid improvement in surgical technique and the accompanying reduction of operative mortality has stimulated many to advise immediate surgical intervention when the same or even better results might have been obtained by less violent means.

Rest as a therapeutic agent has been used since the beginning of man and while methods have changed, it has remained a valuable adjunct in the treatment of disease. Hilton, and Clarke, were among the first to advocate rest, but little heed was given to them until Ochsner, by his marvelous results, demonstrated its value in the treatment of acute perforative appendicitis.

The value of rest in the treatment of acute pyogenic infections is readily appreciated by those who consider the nature of the process and the reaction of the tissue involved. When a part becomes infected the body tries to protect itself and repair the injury. About the infected area there is a retardation and finally stasis of the blood, the injured vessels becoming thrombosed. There is also an escape of plasma and later leucocytes through the walls of the blood vessels. The escape of the leucocytes which at first are polynuclears, depends upon the chemotaxis of the toxins which when absorbed also attract new leucocytes into the blood stream. The leucocytes ingest the bacteria and try to destroy them by means of an enzyme. If the bacteria destroy the leucocytes, the escaping enzyme is neutralized by an antienzyme in the blood serum thus preventing widespread tissue destruction. The blood serum also contains powerful bacteriocidal substances as well as the so-called "opsonins" which stimulate phagocytosis. Soon after the escape of plasma, fibrin is deposited within the infected area which closes the lymphatics and acts as a bacterial filter.

Stasis, thrombosis, and the deposition of fibrin close all communications with the general circulation and are nature's temporary defenses until a permanent connective tissue barrier is constructed about the infected area. The complications of acute pyogenic infections are due to disturbance of these defenses, the most frequent causes of which, are early incision, muscular contraction and palpation.

By keeping the parts at rest, nature, under otherwise normal circumstances, will overcome the ordinary pyogenic infections and will convert a rapidly spreading infection into one that is local.

When the infection is in one of the extremities, rest can only be obtained by applying some mechanical restraint. For this purpose a pillow is useless, for the reason that it cannot overcome the constant reflex muscular spasm. As the limb rests upon the pillow, motion is apparently absent, but at the next visit to the patient you will find the position of the limb changed. Flex-

* Read before the Medical Society of the County of Greene, July 11, 1911.

ion is the result of pain and does not lessen it as many have been led to believe. Should flexion persist for any length of time connective tissue proliferation may render it permanent. Muscular contraction dislodges thrombi and forces bacteria along the lymphatics, therefore all regionary muscles should be immobilized. This can only be accomplished by applying a splint which extends beyond their origin and insertion, in other words from the proximal to the distal end of the extremity so that all joints are kept in a fixed position. With fixation of the limb in the extended position, pain diminishes almost immediately and deformity is prevented. Local baths in the treatment of acute infections are unscientific and dangerous for the reason that they do not afford rest and permanent deformity may result. They have very little if any local action and the duration of the disease is not shortened by their use.

Before applying a splint, the entire limb should be enclosed in a large but light gauze dressing saturated with some hot non-irritating antiseptic solution. Antiseptics prevent secondary infection and convince the anxious patient that something is being done. A large dressing prevents unnecessary palpation of the parts. A layer of absorbent cotton is then applied and the entire dressing covered with a sheet of rubber protective to prevent evaporation and radiation. Heat acts as a sedative and increases the amount of bacteriocidal exudate. The splint is then applied and the limb elevated so that the solution may be poured into the dressing every two or three hours without disturbing it. By this arrangement the dressing does not have to be changed more than once in twenty-four hours and the spread of infection and absorption of toxins are kept at a minimum.

If small amounts of toxins are absorbed, the body is able to neutralize them and at the same time produces an excess of antibodies until immunity is established. These patients should be kept in bed until all acute symptoms have disappeared and cathartics should be given to avoid absorption of toxic material from the intestines and to concentrate the bacteriocidal agents.

Within twenty-four hours after applying this treatment there is usually a decided improvement. Only when pus is present and the temperature and pulse are normal is incision indicated. After incision the treatment should be continued as before until all evidence of inflammation has disappeared. Exploration is dangerous and should be avoided. Irrigations should never be used for the reason that they always leave a certain amount of infectious material behind and they spread infection to parts as yet uninvolved.

Wherever a splint has been applied from the onset of the infectious process, I have never seen a complication or deformity. The characteristic claw hand or flexed joint so frequently seen is a permanent impairment, the prevention of which is easier than the cure.

The phenomena associated with acute infections in the abdomen are the same as elsewhere in the body, but the anatomical conditions being different we must obtain rest without the use of a mechanical restraint. These infections are usually primary in the appendix, Fallopian tubes or gall-bladder. The therapeutic principles, however, being the same I shall limit my remarks to the treatment of acute appendicitis.

As a result of injury or interference with the blood supply of the appendix, bacteria from the lumen invade the wall. If it is a weak infection and the resulting injury to the wall is slight, nature immediately repairs it and the result is a slight scar in the submucosa. If it is a severe infection and its progress is not retarded general peritonitis usually follows.

Acute appendicitis is a surgical disease but immediate operation will depend upon the extent of the process. That skillful surgeon, M. H. Richardson, has said that some cases "are too late, for an early, and too early for a late, operation," for which reason I believe that every physician and surgeon should study his cases carefully so that he can decide whether an early or late operation is indicated. Every diseased appendix should be removed for the reason that the gradual increase of scar tissue interferes with its nutrition and drainage, thus predisposing it to recurrent attacks. Very few appendices removed during an acute attack fail to show evidence of a chronic inflammatory process.

If the entire septic focus could be removed immediate appendectomy would be the rational treatment in all cases. This, however, is only possible if the process does not extend beyond the appendix. Forty-eight hours after the onset of an acute attack of appendicitis only a small percentage of the untreated cases have the process still limited to the appendix. At this stage of the disease the post operative mortality begins to rise, which is not the result of a more difficult operation, but is due to the local and general conditions of the patient which renders him unsafe for such a violent procedure. At this stage it is better to postpone the operation until the process becomes localized and the patient is more or less immune to the infection. This can be accomplished in about ninety-seven per cent. of the acute gangrenous or perforative cases if the "starvation treatment" as advocated by Ochsner is applied.

If you will listen to a quotation from Adami's "Principles of Pathology," I am sure that you will agree that this treatment is both scientific and rational. When describing acute inflammation of serous surfaces he says, "Where pyogenic bacteria gain entrance locally to a serous cavity —in appendicitis for example—their toxins, before they become too concentrated, lead, first, to a fibrinous exudate, whereby the viscera in the immediate neighborhood become cemented together; and, while at the region of entrance the bacteria may multiply and induce pus formation,

the surrounding fibrinous adhesions prevent the escape of these bacteria into the serous cavity in general, and, in virtue of the fibrinous adhesions, very slow diffusion of toxins, with the arrest of bacterial passage, and a localized abscess results, in place of widespread suppuration,—an abscess whose circumference, in part, is formed of inert matter and not of living tissue. The products of bacterial growth, it is true, can dissolve this fibrin, thus, such an abscess tends to increase in size, but as it grows, so in favorable cases the outer zone of irritation, through the diffused toxins, leads to more fibrin being laid down, and if with active reaction on the part of the tissues and quiescences of the viscera, such fibrin can be adequately procured, the inflammation remains local."

This fibrin is nature's protective barrier until organized adhesions are formed about the septic focus. Until then, any disturbance of this barrier, by operative intervention, exposes an unimmunized patient to an overwhelming infection and intoxication. The patients operated upon during this stage of the disease and who die within a few hours, die not as a result of surgical shock, but as a result of acute intoxication. Some die within forty-eight hours after operation of general peritonitis while others die of septicemia. Those who recover have a prolonged and very often critical convalescence for the reason that after operation they have a more extensive infectious process and greater toxemia to overcome. Many of those who recover will complain of pain in the right iliac region for a long period after the appendix has been removed. This suffering is usually due to interference with the function of the intestines. Some of the latter cases develop symptoms, and die, of acute obstruction. Careful observation of the pathology of a large number of perforated appendices removed after the "starvation treatment" had been applied, has convinced me that obstruction is the result of an immediate operation during the acute perforative stage. In about ninety per cent. of these cases the omentum covers the perforation and prevents the escape of infectious material into the peitoneal cavity. If the omentum is undisturbed by cathartics or operation, adhesions develop between it and the appendix without interfering with the intestines. If the appendix is removed before adhesions form, a certain amount of infectious material escapes into the peritoneal cavity, thus a new process is started which can only be localized by adhesions between the omentum and coils of intestines.

By postponing operation on this class of cases until the process becomes localized, with a few abdominal pads, an extra peritoneal operation can be performed on an immuned patient. If pus is present the appendix should not be removed unless within easy access for the reason that there is always danger of infecting the peritoneal cavity. After all evidence of pus has disappeared, a secondary operation for the removal of the appendix may be performed with very little danger to the patient. The latter operation could be postponed for months providing the patient would take nothing but liquids and avoid cathartics. This many will not do, for which reason the appendix should be removed as soon as conditions render it safe.

The argument that delay in operating for acute perforative appendicitis means more extensive pathology with increased mortality, does not correspond with the experience of those surgeons who apply the "starvation treatment" as advocated by Ochsner.

The so-called "starvation treatment" was presented to the profession to show that "the infected, perforative or gangrenous appendix could be eliminated from the general peritoneal cavity until such time as it could be removed with safety to the patient."

I have never seen or heard of a death following acute appendicitis where the starvation treatment was applied from the onset of the disease. It is not only of great value in perforative cases, but also in those cases where other conditions render an operation dangerous or the patient refuses an operation. Those who condemn this method of treatment have not given it a fair trial. They have applied it to the wrong class of cases, or there has been an error in the treatment. Very often the patients have received a little water or milk, or they have general peritonitis when the treatment is started.

The chief cause of general peritonitis following acute appendicitis is peristalsis. It forces material into the lumen of the appendix thus increasing the intra-appendiceal pressure. This favors dissemination of bacteria throughout the infected wall and should there be a point of weakness, perforation will result. After the peritoneum becomes infected, the to and fro movement of the intestines spreads the infectious material just as paint spreads when a brush is applied.

The chief factor in the production of peristalsis is food in the upper gastro-intestinal tract. At the onset of an attack of acute appendicitis, nature tries to eliminate this food by regurgitation and vomiting. We can therefore assist her by gastric lavages until all retching ceases, and then omit everything by month. The pain of acute appendicitis disappears almost immediately after the patient stops taking food. Occasionally pain disappears after taking a cathartic because the pressure within the appendix is relieved by perforation. This relief is only temporary after which the pain of peritonitis begins. The use of cathartics for the relief of abdominal pain is a dangerous practice. No case of appendicitis was ever cured, many have been made worse, and many have died as a result of their use. There is never any danger of intestinal intoxication so long as the patient receives no food by mouth.

The position of the patient with acute perforative appendicitis is of great importance. By elevating the head of the bed and tilting the

patient on the right side, the process is not only kept in that part of the peritoneal cavity from which absorption is less, but it is walled off by the omentum and the head of the cecum so that there is very little danger of intestinal obstruction.

A large but light hot dressing applied to the entire abdomen every three hours, serves the same purpose, as in the treatment of infections elsewhere in the body. After a diagnosis of acute perforative appendicitis has been made, palpation of the abdomen does not help the patient or the doctor.

Nutritive enemata of not more than four ounces should be given every three hours to which may be added the deodorized tincture of opium if there is pain or restlessness. These enemata should be given very slowly through a catheter not inserted more than two inches into the rectum. By observing these minor details, they produce no distress, are rarely expelled, produce no disturbance of the pelvic viscera, and there is no danger of rupturing the abscess wall. The intense toxemia and thirst which is sometimes present, is usually relieved by continuous salt solution given according to the method described by Murphy. Proctoclysis keeps up the arterial tension thus diminishing the absorption of toxins and increasing the bacteriocidal exudate within the peritoneal cavity. Cathartic enemata are harmful for the reason that they remove the foundation upon which nature has built its protective barriers. Any disturbance of the rectum is usually followed by a rise in temperature and pulse which indicates that a certain amount of toxins has been absorbed. Within twenty-four hours after the application of this treatment in cases of acute perforative appendicitis there is usually a decided improvement in the patient and within forty-eight the temperature, pulse and leucocytes are normal. The temperature, pulse and leucocytes are no indication of the local condition but they do help us in determining the general condition of the patient. The patient as well as the disease should always be considered before applying the treatment.

After the temperature and pulse have been normal for four days which is usually a week after the onset of the disease, soft adhesions are usually present and an operation is comparatively safe. Operation, however, may be postponed and the patient given liquids. If pain returns or the temperature and pulse rise, liquids should be discontinued immediately. A cathartic should never be given unless the operation is postponed for several months when it may be given the day before the appendix is removed.

After a perforated appendix is removed a certain amount of infectious material is always left behind for which reason the parts should be kept at rest by applying the starvation treatment for at least a week longer. At the end of a week if the temperature and pulse are normal liquids may be given. Low soap suds enemata may now be given every morning but no cathartic before the end of the second week.

Some surgeons advocate immediate operation in all cases of acute appendicitis and their results have been remarkable. This rule, however, in the hands of the average operator is dangerous, for the reason that the unimmunized patient with acute perforative appendicitis, is exposed to an unnecessary risk.

What has been said about the treatment of acute appendicitis also applies to infections of the Fallopian tubes and the gall-bladder. After the infection involves the peritoneum, the post-operative mortality rises with the progress of the disease.

When the peritoneum becomes infected as a result of perforation of the viscera, due to trauma or acute ulceration, an immediate operation is indicated for the reason that the peritoneum is unprepared and the supply of infectious material should be cut off immediately and drainage instituted. Before and after operation the "starvation treatment" should be applied to avoid peristalsis.

The "starvation treatment" was never advocated as a cure for appendicitis, but for the prophylaxis of general peritonitis. With the "starvation treatment" the mortality following acute intra-abdominal infections will be steadily reduced as the members of the medical profession appreciate the fact that "some cases are too late for an early, and too early for a late, operation."

THE DIAGNOSIS AND TREATMENT OF CERTAIN FORMS OF EPILEPSY.*

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THE group of symptoms called epilepsy is in the mind of the average practitioner so broadly inclusive that much is taken for granted in diagnosing an idiopathic epilepsy, thus failing to give proper weight and attention to important etiological factors which, if known, should influence materially the treatment outlined for the individual patient.

Hippocrates tells us truly that all diseases arise from natural causes, many of which, however, are still unsolved by human understanding. He was of the opinion that the brain was the seat of the lesion in epilepsy, describing the paroxysm as being due to a cold phlegm or pituita, secreted in that organ, which, passing down into the bloodvessels and encountering the pneuma or principle of life, thus producing those dreadful convulsions to which epileptics are subject.

In our day too many physicians forget that all of the knowledge of epilepsy gained up to this time still demands that we must look to the brain for the seat of the epilepsy. Although other parts of the human economy are usually involved,

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it is generally held that these are but minor factors as compared with that great factor, an abnormally sensitive cerebral cortex, which in itself must exist before the addition of the other factors can call forth the group of phenomena which we designate as epilepsy.

Epilepsy may be defined as a symptom complex, chronic in nature, characterized by recurrent, abrupt attacks of impairment or loss of consciousness, with or without convulsive phenomena and usually resulting in mental and oftimes physical deterioration.

The group thus described is so broad that we must gradually exclude much as our knowledge increases, leaving only those cases in whom a definite cause cannot be ascertained: *i. e.*, the so-called idiopathic epilepsy. These forms will in turn no doubt yield to the investigation of future years so that the term idiopathic will no longer be used to indicate our ignorance.

As is well known, epilepsy presents itself in early life, but 15 per cent. or less of all cases appearing after twenty years of age. This impresses upon us the fact that either a congenital defect exists which prevents a proper functioning of the brain, or that some early interference, be it germ disease, trauma or what not, has prevented a normal development. In either instance we have an aggregation of nervous matter which reacts abnormally to various stimuli, be these in themselves abnormal or otherwise.

Frequent attention has been called to the role played by instrumental deliveries, prolonged labors, meningitis, encephalitis, etc., in producing injury to the brain, thus laying the foundation for what in after years appears to us as epilepsy, feeble-mindedness, or as is usual, both. These factors are ofttimes forgotten so that when in later life various types of seizures do occur, these early predisposing causes cannot be ascertained by the attending physician, though sometimes surmised: *e. g.*, when a patient perhaps fifteen or twenty years of age has, following one or more seizures, an exhaustion paralysis of one or both extremities or a unilateral exaggeration of reflexes.

So far as this class of cases is concerned, we must confess that treatment cannot be expected to produce very good results except in a general way, as the damage done to the nerve cells was such as to destroy them in certain parts of the cortex. Nevertheless we are frequently met with extravagant claims by those who would try to make us believe that new cells could be made to grow to replace those destroyed.

We have found at the Colony several patients in whom there appeared a well-established history of early meningitis and probably encephalitis resulting from sunstroke or one of the infectious diseases. In consequence of the resultant sclerotic changes there has been established a state of affairs which gives us the picture of mental deterioration and convulsions varying in degree. The seizures often do not appear for many years after the predisposing cause acts. Many causes are assigned then which in themselves are in no way responsible. In other cases, petit mal and nocturnal grand mal seizures have been present for years but unrecognized by either friends or physicians.

Many writers call attention to the role played by small quantities of alcohol lighting up an epilepsy in susceptible individuals. We know that neuropaths in general are very intolerant of alcohol. In these persons abstemiousness results in a disappearance of the seizures, which reappear when the use of alcohol is resumed. We are aware, however, that such cessation will not recur an indefinite number of times as ultimately permanent conditions result which cause a more or less regular occurrence of seizures.

In many of these defective individuals we frequently find a history of traumatism, either cranial or elsewhere, to which much undeserved credit has been given in causing the seizures; in others a luetic infection which in itself was but an incident engrafted on a pre-existing defect. I will now cite certain illustrative cases:

Edward R., No. 2689: Age 48 years.

Father died at 36 years of alcoholism; mother at 30 during childbirth. Nothing known as to other ancestry.

Patient's personal history negative beyond the fact that he has been for many years an alcoholic.

First seizure occurred at 36 years after a long debauch. Second occurred six months later, also following an alcoholic debauch. At first these occurred every six months, later monthly, both nocturnal and diurnal, usually grand mal. Frequently has psychic periods but has never been uncontrollable. During these periods there is a marked congestion of the face and neck.

Mental status fair.

In this case, the individual was predisposed to succumb readily to the effect of alcohol, this later developing effects of its deleterious influence in his epilepsy.

George A., No. 3160: Age 32 years; white; single.

Father died at 59 years of tuberculosis. Mother died at 49 years following some operation. No history of alcoholism or nervous disease in parents.

Patient's early history negative.

First convulsion occurred at the age of 26 years. Three weeks later had second seizure, following which seizures have varied from two to three a month. In a seizure which occurred just before admission, patient was sitting on a veranda when he suddenly became speechless and acted as if going to cry. He then became unconscious and had a convulsion. When he recovered from this, he complained of a severe headache.

Patient has several stigmata of degeneration, palate being high arched, saddle shaped. Has a marked acne as a result of bromides administered before admission to the Colony. Denies all his-

tory of syphilis. Pre-systolic murmur at apex. Peripheral arteries show evidences of arteriosclerosis. Pulse is of high tension. Following attacks complains of severe frontal headache. Knee jerks exaggerated on both sides. Marked plantar reflex of toe flexion type. No evidence of any paralysis.

This patient led the life of a vagrant and is accustomed to alcoholic excesses. Presents the general appearance of an alcoholic.

In this individual, one must consider the use of alcohol in a defective individual, resulting in an early arteriosclerosis, in consequence of which the phenomena of epilepsy have appeared.

George A. W., No. 1092: Age 33 years; laborer; married; white.

Father died of some paralysis at the age of 70 years; said to have been out of his mind for five months preceding death. Father said to have been 67 years of age when patient was born.

Patient suffered from difficulty during dentition. Is said to have had rickets, scarlet fever, measles, diphtheria and pertussis during early life. At the age of 15 years he was shot in the right eye with a revolver. Has been markedly alcoholic since the age of 16 years, going on prolonged debauches at times. An X-ray examination made previous to admission to the Colony by Dr. L. A. Weigel of Rochester, showed evidence of the bullet being in the anterior and upper part of the occipital fossa.

This man's first seizure occurred at the age of 31 years.

In this case it is very questionable as to the influence of the revolver wound on the development of the epilepsy, the patient's alcoholism plus a defective make-up probably being sufficient.

H. W. B., No. 2307: Cigar maker; common school education.

Family history as ascertained negative.

Patient's early history negative except that he was thrown from a wagon when a boy, receiving a slight cut over the occiput. Said to have had measles and whooping cough when young and diphtheria when 28 years old. States that he had typhoid fever three times. As a young man he used alcoholics freely but denies all venereal infection. Has tramped about the country, having been arrested for riding on freight trains. Has been married thirteen years and had two children.

His first epileptic seizure is said to have occurred when he was 37 years of age. States that he was riding on a surface car on his way to work. On alighting the car suddenly started and threw him against an elevated railroad pillar. The blow made him unconscious. He was picked up and taken to a physician's office where he recovered about an hour later, returning to his home alone. He received a lacerated wound of the forehead and severe abrasions and contusions about the face and hands. On reaching home he went to bed, where he remained for three weeks. Said he was delirious part of the time. Three weeks after the injury he had his first seizure. Said to have become dazed. Threw his arms about but did not fall and had no general convulsion. Was dull and stupid afterward and his right arm felt stiff and useless for 24 hours. Three or four days later is said to have had a true grand mal seizure. Following this his seizures recurred about once a month. Has been free from seizures for as long a period as eighteen months. Following seizures he has a frontal headache.

As this patient was admitted before the days of the Wassermann test, a definite knowledge as to syphilis could not be ascertained. There was no evidence of any paralysis.

In this individual, the matter of the injury to the head received at 37 years of age, added to what he had already gone through, must be considered in arriving at a diagnosis as to the probable etiological factors.

I am of the opinion of Seguin who, in writing some 30 years ago, stated that convulsions, or epilepsy, in individuals, supposedly due to cuts, blows, worms, phimosis, etc., abounded in the medical literature; but that excluding head injuries such factors are not likely to cause convulsions without the preexistence of a defective nervous system, either congenital or acquired.

Certain other cases, apparently due to the circulatory changes, which in themselves are common in varying degrees of intensity in advancing years, must, in my opinion, have possessed a nervous system so constituted that it could not withstand in a normal manner the changes incident to the common involutional period.

It must be remembered that epileptics may have brain tumor develop as a concomitant symptom, as in case—

Henry K., No. 1745: Age 45 years.

Patient is third in family of four. Father said to have been very intemperate. Otherwise nothing could be ascertained in regard to family.

Patient's birth and early infancy normal. At the age of 10 years, he received a blow on the head with a pitchfork. He was shortly afterward trephined at the Erie County Hospital. Has never used alcoholics. Two weeks after the injury at 10 years of age, he had his first convulsion. These recurred at varying intervals up to the time of his admission to the Colony; sometimes twice a week and sometimes once in two weeks.

Describes his convulsion as beginning with a sensation of dryness in the mouth, following which he becomes dizzy and falls and has a grand mal attack. Considerable failure of memory.

At the time of his admission, there was noted an exaggeration of the left knee jerk, the left foot weaker than the right. No atrophy of either side.

Following his admission, his mental condition failed and he passed into a condition of mental confusion until the week preceding his death, when he presented a peculiar choreiform-like movement confined to his left leg.

Autopsy revealed a softening of the right posterior portion of the brain, of a yellow, purulent color. On section there was found marked softening of the posterior central convolutions in front to occipital lobe. Within this softened area was found a mass about the size of a hen's egg, made up of a mixture of clot and white matter, yellow gelatinous matter, and on the posterior external portion was what appeared to be a cavity having a definite wall, which was granular in appearance and cast up in ridges. Trephine opening made at the time of the operation at 10 years of age, corresponded about to the inferior portion of the right parietal lobe. The tumor mass was located at the level of the posterior portion of the Sylvian fissure, extending an inch above and below, about beneath the supra marginal gyrus. The pressure of the tumor had distorted the pons, flattening it to the left. The posterior part of the left lateral ventricle enlarged. Basal vessels sclerosed.

In this individual this condition was probably secondary to an early injury to the brain which had occurred some thirty years previous.

To show the part played by arteriosclerotic changes in the production of epilepsy, I will cite some cases, first recalling to your minds, however, the fact that intimal changes, especially in the large vessels, are commonly seen in epileptics who have died during comparative youth.

The relation between the symptoms of epilepsy and vasomotor conditions is still debatable. It must be admitted that spasm and dilatation of the cerebral bloodvessels can so disturb the circulation as to apparently produce all types of seizures but as to how general such an influence is active in all epileptics is as yet undetermined.

In the following cases, structural circulatory disorders have presumably been active exciting factors in producing epileptiform seizures. If in all these cases we could obtain accurate and detailed histories, we would undoubtedly find evidence of a predisposition: *i. e,* a defective individual.

Fred P. S., No. 2848: 34 years of age.

Father epileptic, sister epileptic. Mother had some heart trouble, exact nature of which cannot be learned. The early life of this patient was uneventful.

At the age of 22 years, he was operated upon for appendicitis. One year later he had pneumonia, during which he was paralyzed, this being followed in one year by his first epileptic seizure at the age of 24 years.

He probably had an embolus or thrombosis during his pneumonia, the paralysis resulting therefrom.

He says that at the time of his first seizure, on arising in the morning he felt dizzy, his paralyzed hand became numb and began to contract, he then lost consciousness. Second seizure occurred one month later and was similar in character. At first his seizures occurred every two weeks for one and one-half years, after which he was free from seizures for six years. Later they returned and occurred as often as six to eight per day. Preceding seizures, he has a sensation of his heart coming into his throat, his paralyzed arm becoming numb as he expresses it.

In this case physical examination shows evidences of arteriosclerosis. In all probability the early circulatory changes plus the pneumonia brought about the lesion in the brain, as a result of which his epilepsy has appeared.

John K., No. 3100: Age 49.

The data obtained relative to the family history of this individual is negative. Nothing can be ascertained relative to his early infancy and childhood. Said that he had measles at 13 or 14 years of age. Later he learned the tanner's trade. At the age of 45 years, while working in the woods, he had a stroke of paralysis. He said that he went to bed one night as usual and some time during the night had a right hemiplegia. He became unconscious and remained so for two days. It was two months before he was able to be up and around, since which time the paralysis has become somewhat less marked.

Shortly after this, he being unable to tell the exact time, he had his first epileptic seizure. There was a peculiar sensation in his head and hands, then began to shake, things appeared black and he passed into a condition of unconsciousness. Following seizures is mentally confused. Seizures occur about once a month, though he has had as many as three in twenty-four hours. Mental condition has failed.

Patient is a fairly well nourished man with some anæmia. Pupils unequal in size; right dilated and the left contracted to about pin head size. (Unequal pupils is a frequent finding in epileptics.) The right pupil reacts to light and accommodation but the left, even after the eye has been closed for several minutes and then brought to the light, shows only slight contraction. Hearing defective in right ear. Beginning atheroma in both radial arteries. No heart murmurs. Patient complains of considerable pain in his right side, this being worse at night.

A point of interest in this patient is whether the paralysis and convulsions resulted from a common cause, early atheroma, or was the damage done by the cerebral hemorrhage necessary before the convulsions could appear?

James M., No. 3232: White; single; age 52 years.

Father became insane at the age of 40 years; died at 72 years. One of patient's sisters died

of some mental trouble of which no definite descriptions can be obtained. Mother died at 90 years of age. No other facts can be ascertained relative to family history.

So far as can be learned, the patient's early life was negative except that between the ages of 16 and 20 he had frequent nosebleed.

His first seizure is said to have occurred at the age of 40 years, following which they have reappeared five or six times a year. Patient uses tobacco to a considerable extent but denies alcoholism. No evidence of any cranial injury. Ophthalmoscopic examination negative. General sense of well-being. No evidence of paralysis. Some inelasticity and slight atheroma of arteries.

In this case the seizures are probably due to early senile changes.

Thomas W., No. 3312: Age 60 years.

Family history negative beyond the fact that father was alcoholic and one brother had chorea.

Age at onset of epilepsy in this patient 59 years. His first seizure occurred one evening after returning from work. Following this he remained in bed for six weeks because of a right hemiplegia. The diagnosis made at the time was cerebral embolism. Patient does not remember having another seizure until six months later, after which they occurred every three months. His memory has failed and he has become irritable. Complains of undue weakness in his right side after seizure. Has received bromides and iodides.

At the age of 16 he had rheumatism, a mitral lesion resulting.

A practical examination shows this patient to have a mitral systolic and regurgitant murmur.

In this patient the convulsions are due, without doubt, to the damage done by the interference with circulation at the time the embolism interfered with the same, the entire process being prepared for by the advanced arteriosclerotic changes.

John R., No. 3125: 44 years of age; plumber; white; single.

Patient's father died at 60 years of a paralytic stroke. Was a wood carver by occupation, drank beer occasionally. Mother living, aged 62 years, and well. Paternal grandmother died at age of 47 of paralytic stroke. Maternal grandfather died at age of 47 of tuberculosis. Maternal grandmother died at 74 of senility. Patient has two brothers and two sisters, all well except that his sisters and one brother are said to have migraine.

Patient's early history negative. Apparently normal in development. At the age of 16 he had frequent attacks of nosebleed. Received a good general education. When 7 years of age he fell through a hatchway and was brought home unconscious. Remained in bed for three weeks. It is impossible to obtain any further information in regard to this incident.

His first epileptic seizure is said to have occurred at the age of 32 years, but patient states that when a boy of 12 or 13, he had fainting spells while at school. He describes them by saying he would feel as well as usual when suddenly, without warning, he would begin to scream, then lay his head on the bench and the spell would pass off. His present seizures consist of a cry, falling on the face, at which time consciousness it lost; severe convulsion then occurs. After the convulsion there is a feeling of weakness and frontal headache. Usually sleeps for about two hours after seizure.

He worked as a master plumber and steamfitter for several years. Has used beer moderately and smoked. Has been given to sexual excess but denies venereal infection.

Convulsions not localized but general in type. Patient has received many injuries about face, head, etc., as a result of falling during seizures. No evidence of any paralysis. Beginning atheroma of radial arteries. No heart lesion.

This patient died during a seizure. Autopsy showed enormously enlarged left ventricle. Mitral valve flaps appeared short and the chordæ tendineæ short. On the anterior flap there were three or four patches of fatty degeneration. The orifice of the aorta was negative. The aorta throughout showed marked intimal change, not markedly developed but extending over large areas. Coronary arteries showed patches of intimal degeneration. Evidence of cerebral arteriosclerosis present. Contracted kidneys. The autopsy findings as a whole showed marked cardio vascular degeneration.

In this individual the question of there being a predisposition to early circulatory change is evidenced by the fact that his father and one paternal grandparent had cerebral apoplexy.

John F. H., No. 2012: Age 52 years; married; freight conductor.

The family history as obtained is negative.

Early infancy and childhood negative so far as can be learned. At the age of 22 years, patient had jaundice. At the age of 24 or 25, while coupling cars, he had his right hand crushed, losing his little finger. Shortly after that he was married and has had seven children, five of whom are living. The cause of death of the other two is unknown, they dying during infancy. Those living are well. Patient has never used liquor to excess. Has been a heavy smoker. Denies all venereal infection. Says he has always been healthy.

At the age of 43 years, he gave a loud scream, fell on the floor, frothed at the mouth and had a severe convulsion lasting about five minutes. The assigned cause was nervousness from work

in which he was engaged and some unknown injury received a short time before the first attack. Second occurred four weeks after the first.

Patient has a marked senile tremor with some weakness of his right side.

In this case it is rather difficult to give any definite cause for onset as his blood vessels did not show any unusual atheromatous condition, there was no definite history of any cerebral injury, nor was the patient alcoholic.

Charles A. C., No. 3365: Age, 53 years; married.

Father died at 62 of what was diagnosed as neuralgia of the heart. Mother died at 63 of cancer of the stomach. Nothing known relative to grandparents.

Patient's early history negative.

First seizure occurred at the age of 50 years. Assigned cause loss of property and business failure.

Physical examination showed a well marked atheroma of peripheral arteries. No heart murmurs. Patient thinks that he had syphilis ten years ago, there being a fairly definite history of a chancre. Blood pressure on an average exceeds 200.

Following seizures he is considerably prostrated with numbness and tingling of the left arm and hand.

A Wassermann test made in this case was negative.

In this patient one must consider whether the syphilis brought about such changes in the circulatory system as might result in symptoms of epilepsy, or whether such were due to early senile changes, the result of overwork.

Chadbourne in quoting Stintzing says that to demonstrate the alleged causative relationship between epilepsy and heart disease, we have to demonstrate:

1. The heart disease must precede the epilepsy.
2. Other causes must be excluded.
3. The coincidence must be frequent.
4. Improvement in the heart condition must improve the epilepsy.

In all cases of convulsions appearing after twenty years of age, we must first look for evidences of cerebral traumatism, syphilis, alcoholism, renal disease, diabetes, brain tumor and in women during the childbearing age, eclampsia. When these can be excluded, we are justified in diagnosing epilepsy tentatively at least. It should be ever borne in mind that these conditions may also occur in an individual already epileptic, thus adding to the difficulty of diagnosis.

It is now held that no symptom of epilepsy is absolutely characteristic, thus demanding the making of a diagnosis purely by exclusion. Repeated careful examinations are necessary before one is justified in labeling as epileptic an adult in whom the symptoms did not appear until the adult age was reached. Bed-wetting, headache and feeling of fatigue on arising, unexplained soreness of tongue, lips, etc., wetting of clothing and mild diurnal seizures of various kinds are to be investigated carefully. The epileptiform convulsions occurring in paresis and dementia præcox are accompanied by other symptoms of the psychosis.

Borderland cases of epilepsy as described by Gowers, include seizures accompanying labyrinthine disease; migraine which by some is considered as closely related to epilepsy; vagal attacks, etc.

Turner divides certain epileptoid phenomena into two groups: vasomotor and psychical. The first are characterized by throbbings and beatings of the heart, flushing of the face, etc., fulness of the head, dizziness and various paresthesias. These occur in those of a nervous temperament, Dana noting there is usually an associated thyroidism.

Gowers' vasovagal seizures are sensations referred to the stomach, heart and respiratory systems, accompanied by distress, fear and a sense of impending death. With this there is a feeling of unreality but not a loss of consciousness.

The psychical attacks of Turner are a sense of apprehension, dread or fear, commonly associated with nervousness, coldness, nausea, etc. Turner says that these attacks may merge into epileptic seizures. These attacks resemble the aura described by some epileptics in whom these aura may appear as incomplete seizures.

The relationship of night terrors, somnambulism, sleep talking, etc., in an adult, to epilepsy is a close one and close enquiry and further observation may reveal other symptoms of epilepsy.

In the differential diagnosis of brain tumor the ophthalmoscopic findings, the color fields, the change in reflexes, convulsive localizations, headache, vomiting, etc., must be considered carefully, especially in an individual below par mentally, thus precluding the possibility of an intelligent co-operation during the examinations.

The treatment of the patient in whom alcohol acts so deleteriously is to exclude *absolutely* the use of this poison, as poison it is to the epileptic.

Arteriosclerosis must be treated by carefully graduated exercises and selected occupation with an intelligent administration of iodides and nitrites.

Brain tumor should, it goes almost without saying, receive proper surgical attention as early as is possible. Permanent damage may have already resulted in many cases, but even in these some benefit may occur.

The syphilitic should receive salvarsan and mercurial treatment if a Wassermann reaction is positive. One cannot expect, of course, to have disappear a hemiplegia the result of syphilitic destruction of brain matter, but much relief may be afforded the afflicted individual so far as other symptoms are concerned.

Sedative medication is indicated where many

seizures occur, but to me the most important thought to have ever in mind is to correct and redirect rather than use measures which simply tend to repress temporarily and not get at the bottom of things and remove the exciting cause.

With our present-day knowledge, we can but alleviate the majority of cases of epilepsy as too many have undergone serious permanent damage to their nervous system. We may prevent certain occurrences, but we cannot give a new nervous cell.

To make the afflicted one as comfortable as possible, the physician must practically change the entire course of life before beneficial results can be hoped for. Constant care to secure correction of every action must be ever held before the individual under treatment. These include every detail of diet; the continued and regular activity of the emuntories; bathing; exercise, both recreation and occupation; etc.

Many cases of epilepsy are difficult to treat as they and their friends cannot or will not realize the great importance of long-continued treatment.

The means of prophylaxis available are many but they can be included in what the term "simple life" implies. This must begin at birth and continue during the lifetime of individuals whose family is neuropathic. Neglect of proper care in early life may result in one or more convulsions which act as precursors to a well defined epilepsy in later years. Proper management of the ingestion and assimilation of food and elimination of waste products is the keynote to successful prophylactic treatment.

The propagation of defectives by defectives is tangible. Physicians especially should never lose an opportunity to advise against the marriage of the epileptic and other defectives. If all could but study the thousands of family trees showing these defects handed down from generation to generation, there would be effective laws to prevent at least known defectives from mating.

I am not so optimistic as to feel this can be accomplished at once, but I do feel that we should at every opportunity agitate the subject so that eventually a considerable percentage of defectives will be prevented from increasing their kind. The enforcement of restrictive measures will not blot out defectiveness any more than it will tuberculosis, numerous authorities to the contrary. If these ideas are not promulgated by medical men, who will be expected to present such information to the public?

CHRONIC GASTRIC SYMPTOMS.*

By G. W. COTTIS, M.D.,
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TO determine the frequency of occurrence of gastric symptoms I have studied the histories of 500 patients taken consecutively in my own practice. Symptoms referred to the stomach were prominent at some time in 112 or 22.4 per cent. The number and quantity of digestive preparations on the market would indicate that this ratio is not much too high.

To me the most striking thing about patients who seek advice primarily for stomach trouble is the high percentage of chronic cases. If the history is carefully taken a large majority of these patients will be found to have suffered either continuously or intermittently for many years. Now the fact that a patient has been under medical treatment for well-marked gastric symptoms for five, ten or twenty years or longer naturally arouses a suspicion that something is wrong with the system of treatment. When one considers the number of such patients who travel from physician to quack and from quack to counter prescriber that suspicion is confirmed. What is wrong with the system? Simply that we treat symptoms instead of diseases.

The majority of these chronic cases have been treated for stomach trouble, *per se* and usually for functional trouble. In other words, we have accepted the patient's diagnosis and concealed the fact by Latinizing his English. By this easy system, chronic sour stomach becomes hyperacidity or hyperchlorhydria; indigestion becomes some weird form of dyspepsia, and pain in the stomach becomes gastralgia or even gastric neuralgia. The treatment is equally simple; for most of the proprietary medicines are indicated in all of these conditions.

The prevalence of this sort of malpractice illustrates the difficulty with which we rid ourselves of the incubus of traditions and poor guesses which were given us for truth before the era of living pathology. If we are to have rational treatment we must make our diagnosis etiologic instead of symptomatic. The man who considers gastric symptoms to be symptoms of stomach disease might with equal logic lay all headaches to brain disease.

Modern surgery, by permitting us to actually see the living pathology which accompanies the symptoms, has shown much of the supposed knowledge of twenty years ago to be mere rubbish. Unfortunately, it is more difficult for us to cast aside erroneous ideas, when they have become a part of our habit of thought, than it is to acquire new knowledge. We would do better to know less than to know so many things that are not so.

It is my purpose to review briefly those common gastric symptoms whose causation has been established during the past ten or fifteen years, in the operating room. I shall, therefore, omit any discussion of those symptoms occurring in the course of general diseases, such as tuberculosis, arteriosclerosis, nephritis, chronic heart disease, pernicious anemia and locomotor ataxia. I would merely remind you that in these diseases gastric symptoms may be the first for which the patient seeks relief, and every gastric case should be examined with that fact in mind.

* Read at the annual meeting of the Eighth District Branch, at Dunkirk, September 27, 1911.

When the text-books of medicine are re-written to include the truths taught by abdominal surgery, two changes of vital importance will appear. First, the symptoms of the early stages of organic disease, aptly termed inaugural symptoms by Moynihan, will be emphasized; and many of the classical symptoms of to-day will be properly classified as complications. At a time when all knowledge of abdominal pathology was derived from autopsies, it was inevitable that only terminal conditions should be described. The pathology of the earlier stages is lost in the graver changes which have caused death. When duodenal ulcer revealed its presence only by some such catastrophe as perforation or massive hemorrhage, it was natural that perforation and hemorrhage should be considered important symptoms of the disease. To-day these symptoms are not essential. Moynihan says that he would as soon include a lacerated perineum in the diagnosis of pregnancy as to require hemorrhage or perforation for the diagnosis of ulcer.

Of all the facts which were not appreciated a few years ago the most important was the fact that the stomach is the mouthpiece at times for practically all the abdominal viscera. That is why the myth of symptomless gall stones has had such a hold on medical writers. A patient may have had "dyspeptic" attacks for years, and yet when autopsy revealed the presence of gall-stones, in the absence of any history of jaundice or gall-stone colic, the case was recorded as one without symptoms. In like manner chronic ulcer without hemorrhage or perforation and chronic appendicitis without pain passed unrecognized. Nevertheless these diseases produced symptoms for which the patients sought relief. Under what diagnosis were they mistreated?

The answer lies in the second of the changes which must be made in medical teaching: namely, a large percentage if not the majority of cases of functional gastric neurosis must be recognized as cases of organic disease of some viscus. If you seek in any text-book of practice for the symptoms of duodenal ulcer, of chronic cholecystitis, or of chronic non-painful appendicitis, you will find them best described in the section on "Functional Neuroses," under the heading "Hyperchlorhydria." If you doubt it, compare the symptomatology in Moynihan's monograph on Duodenal Ulcer with that in Friedenwald's chapter on Hyperchlorhydria in Osler's "Modern Medicine." The chief difference is that the clinical picture of hyperchlorhydria is not quite so definite and clear cut as is that of duodenal ulcer, because it includes, beside ulcer, cases of true neurosis and also pylorospasm, which is the symptom-producing mechanism in chronic appendicitis, cholecystitis and other diseases of the mid-gut derivatives. It is not surprising that the symptoms generally interpreted as hyperchlorhydria are found in a majority of so-called gastric cases.

If we use the term to express a symptom complex instead of a definite chemical composition of the gastric juice, we may take hyperchlorhydria as a type in the consideration of gastric symptoms. Its characteristics are well known and need be only briefly summarized here as follows: Pain or distress occurring an hour or more after meals or at about the time that the stomach empties itself. It may be described as burning, boring, or more often, as a gnawing, hungry pain. It is relieved by the ingestion of food, by alkalies, by vomiting or lavage. Associated with this "hunger pain" are distention, eructations and regurgitation of sour or bitter fluid which scalds the throat and causes heartburn. Vomiting is rare, though sometimes induced voluntarily to relieve the distress. Tenderness is absent except sometimes at the height of an attack. These symptoms come in attacks which last a few days or weeks and are followed by intermissions of good health. The attacks are frequently induced by some definite cause, such as worry, overwork, strain or exposure to cold. If we make the symptomatic diagnosis of hyperacidity and administer the symptomatic treatment, namely, some form of alkali an hour or two after meals, we will give the patient relief and, when the usual remission occurs, a symptomatic "cure." In certain cases this is perfectly proper treatment, but in a greater number, it is sheer humbug. Its propriety depends entirely upon the etiological diagnosis. Let us review the known causes of these symptoms: In the first place we must here, as in all stomach cases, eliminate systemic diseases. If no sufficient constitutional cause is found we have to consider:

1st.—Functional disorders.
2d.—Ulcer, gastric and duodenal.
3d.—Pylorospasm due to
- (a) Chronic appendicitis.
- (b) Cholecystitis.
- (c) Chronic intestinal stasis.
- (d) Tuberculosis of cecum or mesenteric lymphnodes.
- (e) Rare forms of irritation in the mid-gut region, such as Meckel's diverticulum, and incarcerated hernia.

4th.—Adhesions interfering with gastric motility or exerting traction on the great omentum.
5th.—Carcinoma.

The most important differential diagnosis is that between true gastric neuroses and organic diseases. While surgical treatment of a neurosis is not so disastrous to the patient as is medical treatment of chronic ulcer or carcinoma, the results are likely to disturb the surgeon's peace of mind. In the earliest stages of organic disease, it is probably impossible at present to make a positive diagnosis. In fact it is very likely, as Stockton suggests, that functional disturbance may be the cause of organic change. If, for example, hyperacidity may be one of the causes of peptic ulcer, it is evident that clinically there will

be no sign to mark the exact time of transition from one condition to the other. From the practical viewpoint of treatment, however, our course is usually clear. Suppose that a patient comes to us with the symptoms of hyperchlorhydria actually present, and with no history of previous attacks. Such an attack apparently may result from many causes—too much smoking in a man, too many pink teas in a woman, overwork, worry, prolonged strain, or indiscretion in diet. The only proper course here is to remove every probable cause and treat with alkalies, rest, fresh air and proper diet. It is true that this may be the first attack in the course of duodenal ulcer, but nobody has ever operated after the first attack, and consequently we do not know whether ulcer is present in the beginning or whether it is the result of one or many such attacks.

Another type of case is the reflex trouble due to eyestrain. Gould has for many years emphasized this factor. These cases usually do not present a typical hyperchlorhydric syndrome. Actual pain is rare. Nausea or vomiting is often present. Distress does not usually come at a definite period after meals. The trouble is likely to be continuous for long periods of time, and in children it will usually be found synchronous with the school term. An oculist should be consulted in all doubtful cases, but especially so in those where the symptoms are vague and irregular both in time of onset and in relation to food ingestion, and especially where nausea without apparent cause is prominent.

Now, if the first attack is always to be treated as a neurosis, what about the succeeding attacks? Here it is only the mild cases which need cause hesitation. A well-developed case of chronic gastric neurosis, with atony, dilatation and the general splanchnoptosis which is nearly always present, associated with the general symptoms of hypersensitiveness, morbid self-consciousness, "nervousness," etc., should be easily recognized. Any treatment to be efficient would have to be directed to the grandparents or to even more remote ancestors. Surgical treatment is absolutely contraindicated. The only mistake to be avoided is that of overlooking long-continued pain and malnutrition from organic disease as a cause of the neurotic condition. Here again the history furnishes the key.

After eliminating the early cases, the cases of eyestrain and the major neuroses, we still have left the majority of cases usually included under chronic hyperchlorhydria. Of these, peptic ulcer, either prepyloric, pyloric or duodenal furnishes the type. Given a history of *repeated, definite attacks* of hunger pain and food ease, recurring each day at the same time after meals, and relieved by food or alkalies; with intervals of normal health; the attacks gradually increasing in severity and frequence, a positive diagnosis of duodenal ulcer should be made.

Given long-continued hyperchlorhydria, without the definite periodicity of ulcer, with epigastric distress occurring at varying periods after meals, with eructations and sour or bitter regurgitation, we should diagnose pylorospasm due probably to chronic appendicitis or gall-bladder disease. The two diseases may usually but not always be differentiated, and not infrequently they occur together. The appendix cases may give a history of earlier acute appendicitis, the pain may radiate down toward the umbilicus, and the attacks are usually more prolonged than are those due to gall-stones. Pain in the appendix region is conspicuous by its absence. (Stanton.)

Pylorospasm due to cholecystitis or gall-stones may closely resemble ulcer in its periodicity. Usually, however, it is possible to elicit a history of pain, radiating to the right costal arch or liver region, and increased by deep respiration or exercise, especially by vigorous use of the arms. A single attack of typical gall-stone colic—even though it be called "acute indigestion"—of course, makes the diagnosis positive.

The diagnosis of reflex pylorospasm is the important thing, for the treatment is surgical, and at operation the gall-bladder, appendix and cecum should always be examined. I desire to emphasize the fact that in those cases of ulcer and cholelithiasis which are first seen after adhesions or contractures have produced partial pyloric obstruction, a diagnosis from the symptoms and physical examination cannot be made, but if the inaugural attacks are well remembered, the history alone will permit us to decide what lesion is causing the symptoms.

Cancer.—The positive diagnosis of gastric cancer should not be made clinically in more than 25 per cent. of cases. Mayo's statistics show that from 71 per cent. to 78 per cent. of gastric cancers spring from an ulcer base. Since ulcer is clearly recognizable and easily cured, three-fourths of the cancers of the stomach can be prevented. The other 25 per cent. have a chance for surgical cure provided the physician knows the inaugural symptoms and can forget the classical symptoms of the text-books. *By the time a positive diagnosis can be made it is useless to make it,* for the patient is doomed. The gastric analyses showing lack of HCl. and the presence of lactic acid; Boas-Oppler bacilli; hemorrhage; tumor; obstruction, and cachexia—these belong in the post-mortem report, not in the clinical record.

Medical treatment of cancer of the stomach has an absolute mortality of 100 per cent. Knowing this, he must have a calloused conscience who will advise a trusting patient to take such treatment. Equally culpable is he who sits waiting patiently for the prodromal symptoms to give place to the deadly "classical" symptoms of cancer. Any patient with long-standing symptoms of ulcer, especially if he is past the age of forty, should be advised of his danger. If he

should begin to lose weight and develop a distaste for food, immediate operation should be urged. An exploratory incision is the most conservative treatment. The waiting policy generally called conservative treatment is really so non-conservative as to be homicidal.

There should be no controversy between medical men and surgeons in this field. The chief indication for surgery is the chronicity of these cases, and this very chronicity implies the failure of medical measures to cure. In the Mayo clinic the average duration of symptoms in the ulcer cases is over 12½ years. Surely this is a longer time than is necessary to convince an open-minded physician that an ulcer has become chronic! Unnecessary laparotomies have been termed sins of commission (no pun intended). Such sins are not nearly so mortal as those sins of omission on the part of physicians which permit chronic ulcers to perforate or become malignant, or which doom a patient with gall-bladder or appendiceal disease to a life of chronic invalidism or misery from "stomach trouble."

Illustrative Cases.

Mary S., aged 9.—For one year had vomited almost every day after noon meal and frequently after supper. No pain or other symptoms. Had been treated unavailingly by several physicians.

Examination negative. Sent to an oculist who fitted her with glasses. Vomiting did not occur next day, and two years later had not returned.

Miss C., trained nurse.—Suffered attacks of severe abdominal pain referred to left ovarian region, accompanied by vomiting. Attacks usually induced by hard work, especially much stair-climbing. Relieved in a few hours by rest in bed. Examination negative.

Diagnosis—None made.

Operation revealed a firm adhesion of the omentum to the left internal ring. No hernial opening. The omentum was taut, causing traction on transverse colon and stomach. Adhesion ligated and severed. No recurrence of attacks.

Mr. McC., aged 25.—Was seized with sudden severe abdominal pain while sitting in grandstand at county fair. Was conveyed home in agony. When seen an hour later was in shock and vomiting. Pain was general but chiefly referred to appendix region. Recti rigid. Pulse rapid and temperature 100. A diagnosis of perforated appendix was made, but operation was refused for six hours. On opening the abdomen the appendix was found to be swollen and intensely congested, but not perforated. It was removed and we were about to close the wound, when some free liquid was noticed, containing many oil globules. The incision was prolonged upward and the stomach was drawn down, when an opening large enough to admit the thumb was seen on the anterior surface. At each respiration oily stomach contents escaped. The ulcer was infolded and the perforation closed. Patient made an uninterrupted recovery. He had been treated for two years for dyspepsia, and had had two attacks of acute appendicitis. Since the operation, three years ago, he has been entirely free from stomach symptoms and has gained forty pounds in weight.

This was one of the cases which suggests that appendicitis may be one of the causes of ulcer. The sequence is, chronic appendicitis, pylorospasm, erosion of mucous membrane, ulcer.

Mr. F., age 40.—Complained of almost constant gastric pain, gas and sour regurgitation. Induced vomiting to secure temporary relief. No loss of weight. Appetite fairly good. Examination negative except slight tenderness in epigastrium.

History—Fifteen years ago was seized suddenly with intense abdominal pain, and fell to the ground. Was carried into house and was very ill for several weeks. After recovery had clear-cut attacks of hyperchlorhydria, which became more frequent until intermissions no longer occurred, and food failed to give relief. Was being treated by eminent internist for nervous dyspepsia.

Diagnosis—Duodenal ulcer with adhesions from old perforation.

Operation by William J. Mayo. The pylorus, duodenum, gall-bladder and liver, were bound in dense adhesions. Duodenum contained a calloused ulcer two inches in diameter. Posterior gastroenterostomy was performed. Result, patient much improved, but not cured. At present time, 3½ years later, has some distress after any hearty meal, with gas formation, but feels comfortable most of the time.

This is a very typical case, in which the diagnosis and treatment had been based on gastric analyses. The history alone furnished a positive and correct diagnosis.

Conclusions:

1. Chronic gastric symptoms are produced by many systemic diseases, by functional neuroses including reflex disturbances, and by organic disease of the mid-gut derivatives.

2. Primary gastric neuroses are relatively rare. This diagnosis should be made only after all known causes of the symptoms have been eliminated.

3. In the diagnosis, the history is of more importance than the physical examination. Gastric analysis is of little value at the time when the diagnosis should be made. In the late stages its chief value is in determining food retention.

4. It is probable that in some cases functional disturbance is a factor in causing organic disease. Therefor all uncomplicated cases should receive rigorous medical treatment. If a cure is not effected in a reasonable time, a competent surgeon should be consulted.

5. The so-called classical symptoms of peptic ulcer, gall-stones and gastric cancer are symptoms of late complications, and should seldom be seen.

PHYSICIANS AND THE LEGISLATURE.*

THE SAFETY OF THE PEOPLE IS THE HIGHEST LAW.

By R. P. BUSH, M.D.,
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"SALUS populi suprema est lex," is a maxim expressed by Roman law-makers and adopted by the judges of that once world-wide empire. It is generally accepted by the governments of all civilized countries. In our state the government maintains a department of health, at vast expense, employing experts in the several departments of practice, inspectors, chemists, bacteriologists, sanitary engineers and lawyers. It also provides for health officers and boards of health in every town, village and city in the state. It furnishes vaccine virus and antitoxins for diphtheria and tetanus free to those who need but are too poor to purchase it. Indeed the Department of Health is of the utmost importance to the people of the state. The legislature is not niggardly when convinced that any outlay in this direction is necessary.

The state, also by law prescribes the qualifications of physicians, as to moral character and education and these restrictions have been imposed at the request of members of our profession, not so much to make a union of practicing physicians and protect the honest scientific practitioner as to protect the public from charlatans, pretenders and swindlers, who working on the fears of the sick and the weak would separate them from their money to their own emolument. In fact the state attempts to provide by examinations that all persons, except ministers, who receive pay for professional services, opticians, dentists, pharmacists, veterinarians, lawyers, teachers, engineers, must be able to render good service. If the public are to receive the full benefit of the State Department of Health, individual practitioners must co-operate. They should be prompt in making reports of births and deaths and especially so in reporting cases of contagious diseases. They should be earnest and active to aid the health officer in enforcing quarantine and carrying out the prescribed treatment. Only by working together can the full benefits of the State Department of Health be secured. In order that these benefits may continue physicians must take an interest in public affairs, especially in selecting or influencing members of the state legislature.

A tidal wave of hysterical superstition is sweeping over the land. Christian Science is advertising itself freely and is getting many followers. Osteopathy has already forced itself into the ranks of legally recognized practice. Efforts are being made to break down the system of education and examinations and the licensing of professional men, which our state initiated and in which it has been imitated by most of the states in the Union.

Rich, influential, educated people have formed associations, the members of which are busy seeking to degrade the healing art to a system of mummeries and incantations similar to those practiced by the medicine men of savage tribes, to break down the wall of educational fitness that does and should protect the public, to embarrass and even prevent the study by animal experimentation of the cause, the prevention and the cure of disease. They even seek to repeal the law compelling the vaccination of school children, when experience and reason teach us that to get the full benefit of Jenner's discovery for the prevention of loathsome and dangerous smallpox the state should insist on the vaccination of every person within its borders, as do several European governments.

In our legislature of 1911, there have been bills introduced—to interfere with the educational qualifications of veterinarians, dentists, pharmacists, lawyers.

Six bills to investigate, regulate or abolish experiments on living animals.

Two to abolish vaccination in schools.

One making it a misdemeanor to vaccinate anyone who has or whose parents have conscientious scruples against it.

One to compel physicians to report on every death certificate if or not any serum treatment has been practiced on the patient within six months!

Also to compel physicians when writing a prescription to state the age of the patient, if a child; fine not less than fifty dollars.

To compel druggists to copy the prescription on the label, certify to the identity of the doctor, etc. Enough of details to double the price of medicine to the patient.

It is to the credit of the steady thinking men of the legislature that none of these bills became laws, though one passed both houses, and the profession are indebted to Governor Dix for a wise veto. On several of these bills the vote was so close as to cause the friends of good legislation much anxiety and stimulate them to increase their efforts. The Department of Health was frequently appealed to and always responded promptly with instructive statistics and convincing argument. Doctor Simon Flexner, Director of the Rockefeller Institute for Medical Research, was a powerful advocate against the anti-vivisection bills. The chairman of the Senate Committee on Public Health, Senator Murtaugh, stood like a rock for good and against vicious legislation.

The legislature enacted many good laws, among them are:

Establishing the hospital for malignant diseases (cancer laboratory) in Buffalo.

Forbidding the indiscriminate sale of hypodermic needles and syringes.

Changing the method of making death re-

* Read at the meeting of the Medical Society of the County of Chemung, at Elmira, September 19, 1911.

turns, so that the undertaker has the responsibility, except as to the cause of death.

Regulating cold storage warehouses as to the reception, stamping and sale of products. And most important of all—

To prevent the pollution of the waters of the state.

So on the whole the enthusiasts have not gotten the better of it thus far but they are active and in earnest and I suspect some of them think they are right. They are circulating literature and makings speeches at fairs and indeed wherever they can get an audience. Said one lady, "God has given me a voice to plead for the poor dumb animals who cannot speak for themselves." Such expressions uttered in a sweet voice by a beautiful woman, with graceful appropriate gestures and glistening eyes has an effect on the average statesman though he may be aware that the maid in the auto is caring for a poodle instead of a baby. Sympathetic humanity is a lovely trait in any character but why exercise it to embarrass and stop operations intended to find means of saving human lives and preventing suffering, and not think or speak of those hundreds of thousands of vivisections, often very crudely performed without anesthesia, the object of which is to produce more palatable meat, gentler horses and lamb frys for breakfast?

There is real danger that some day, by law, our vaccine and antitoxin productions will be stopped and the important and valuable experiments ended because comparatively a few worthless animals are destroyed.

It will not do for the physicians to settle down with the consciousness that they are doing everything they can to perfect themselves in knowledge to be used for the benefit of humanity and to assume that everybody knows it and approves of it, as they ought. They cannot afford to be indifferent in public affairs. Resolutions passed at your society meetings are all right, but the law-maker may never see them or if he does the chances are fifty to one that he does not read them, or should he read them he will say or think: "Of course the doctors object to being shown up." Better than these is a conversation with the candidate explaining vivisection and vaccination, why they are practiced and what we hope to gain by them, with a hint as to what the members of the profession expect of him. If he is already elected to represent you the views of a trusted family physician, no matter to which party he may belong, will go a long way to form and fix an opinion in the mind of your senator or member, which will influence his vote for good medical and educational legislation.

"Eternal vigilance is the price of liberty."

Constant watchfulness and effort must be exercised to prevent vicious and to promote good legislation.

A PLEA FOR A MORE LIBERAL DIET IN TYPHOID FEVER.*

By J. F. HUMPHREY, M.D.,
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THE involution of the treatment of typhoid fever during the past quarter of a century has certainly been one of the most studied problems that have come under the observation of the medical profession.

In the pre-scientific age the conduct of each case was governed by the old adage, "Feed a cold and starve a fever," taken in the true acceptation of that phrase, especially in respect to the amount of food and water taken and what saved the patients from a death of great suffering was the survival of the fittest or those who had the greatest resistance with which to restrain the toxæmia of the disease.

It was believed that drugs were the *sine qua non* of treatment and diet and water were unnecessary factors in the conduct of any successful case.

It has required the experience of many decades for the profession to ascertain that more water was indicated internally and externally, as pointed out by Brandt, in the treatment of typhoids, not only for the comfort of the patient but to restrain the burning of the tissues by the progressive pyrexia, and indeed this fact seemed such a great advance in the accomplishment of the desired end that no further consideration of any other part of the treatment was deemed necessary.

It is a remarkable problem without solution that, during the last quarter of the nineteenth century, the dietetics of the typhoid patient was not more thoughtfully investigated, especially in view of the fact that there was so much emaciation in most every patient due to malnutrition and toxæmia, and the greater the toxæmia, the more the emaciation with the co-existent hyperpyrexia, delirium and possible stupor, that the profession was not more profoundly impressed that there was still some factor, not yet ascertained, responsible for this discrepancy to the success in the treatment of typhoid fever.

It is a well known fact that each typhoid patient during the course of the disease bears a loss of body weight of from ten to sixty pounds, or even more in some of the very severe cases.

In this loss of body weight is included that of water, subcutaneous fat and protein from body fluids and tissues. It is only a matter of observation to conceive of the loss of water, if such is the case, which just now is a disputed fact, while that of the body fats may be attributed to the insufficient carbohydrates taken to prevent the burning of the same, or in other words, the excresion of the acetone bodies recorded in the course of typhoid fever is only the result of the

* Read at the annual meeting of the Fourth District Branch, at Ogdensburg, October 10, 1911.

burning of body fat in the absence of sufficient carbohydrates to restrain the process. Not only is there a loss of body fats but also a great loss of body protein during a case of typhoid, because of which occurs the emaciation, muscular weakness and diminished resistance and with a consequent long convalescence varying more or less with the intensity of the disease.

It will be seen that the loss of protein is most important and bears a close relation to the severity of each case, and it is the belief of Ewing that the pathologic processes incurred by the metabolism of the body protein determines largely the patient's condition.

The causes of the loss of body protein as pointed out by Shaffer of New York are these: First, "starvation"; second, "pyrexia," and third, "poisonous action of bacterial toxins upon the body protein."

The first etiological factor is an undisputed fact borne out by the experience of all, as there is not one here present who has not starved a typhoid patient almost to death, unconsciously, believing that he was exercising his best judgment for the patient, for it is assured that if a patient is not given sufficient nourishment to counteract the pyrexia and toxæmia, he will lose weight, resistance and almost die if the patient has not just a little more resistance with which to save himself.

According to the experiments of Schleich, Voit and Schmidt, artificially raising body temperature increases the metabolism of body protein.

We are surrounded by tables at the present day by which we may calculate the deficit in our diets used and as easily calculate how much food a patient ought to have during any part of the course of the disease.

As to the other two factors producing incalculable loss to the tissues and resistance of the typhoid patient, namely, the pyrexia and bacterial toxæmia, we are all cognizant of the length and breadth of their devastation, as it is to these causes we have been attributing the deaths from typhoid fever since time immemorial, and still never taking a sober second thought and ask ourselves, What causes this hyperpyrexia and toxæmia, and can it be restrained?

We are indebted to the experiments of Schleich, Voit, Zinser and Schmidt for demonstrating that artificially raising the body temperature immediately increases the metabolism of body protein and without any restraint the protein is soon exhausted, so no doubt it is in the natural processes during a course of typhoid that we see the hyperpyrexia depleting the patient rapidly when it exists.

It is a difficult matter to differentiate between the effect of hyperpyrexia and a toxæmia, for no doubt both are present simultaneously as a rule in the more severe cases where a fatal termination seems imminent in contradistinction to a perforation or a hemorrhage.

The pertinent question arises at this time, Can the effect of the pyrexia or bacterial toxæmia upon the body protein be restrained and how?

It has been the opinion of the profession for some years that the emaciation present during a course of typhoid was due to malnutrition and the toxæmia, and the greater the toxæmia the more the emaciation in consequence of the malnutrition, but it did not impress the observers that both the toxæmia and malnutrition could possibly be restrained by a more liberal diet as it was believed that gastric and intestinal digestion of fever patients could not prepare for assimilation a more liberal diet than strictly liquids under any possibility and nothing more solid need be thought of or given a trial.

During a period of many years milk was the liquid that was more uniformly used in feeding these patients, but within a few years pediatrists have found that the milk curd is the toughest and most difficult of digestion of any form of food product for children; at this time therapeutists began to think of milk curd in typhoid patients being responsible for the malnutrition and soon the meat broths and cereal gruels found a place in the dietary of these patients.

It is only within the limit of the present decade that there has been any discussion or even a suggestion regarding a more liberal diet as a part of the regimes of the typhoid patients.

We are indebted to the careful thought and observation of Dr. Wm. E. Robertson of Philadelphia for the innovation of introducing solid food, including carbohydrates and proteids, in the dietary of the fever patient, which I believe to be the greatest advance, exclusive of the pathology, toward the release of these patients from a long sickness of malnutrition, emaciation and intense weakness.

It is seemingly with much trepidation that one enters upon the course of adding solid food to the diet of the typhoid patient, as it has been known for many years that these patients, in most cases, were insufficiently fed, but just how it could be obviated was not suggested.

The departure of prescribing solid food for the typhoid patient from the onset of the disease, seems a little hazardous, *i. e.*, steak, chops, roast beef, lamb, chicken, fish, eggs, toast, vegetables, desserts, etc., but after a few days watching our cases, one's timidity seems to pass away and we become more brave as we see our patients passing through the succession of days without mishaps or with no more difficulty than in the use of the exclusive milk or liquid diet.

I mean by the use of solid food in the diet of these cases to begin carefully with each case, not feeding them indiscriminately and without regard to symptoms or conditions, but after first catharsis as soon as the stomach has re-acted, with milk toast and soft eggs for the first day or

for several days and then you may add to this cereal and crisp bacon in A. M., and at mid-day meal, steak, chops, chicken, etc., with toast, stale bread or swieback, and after a time vegetables with a light meal at night, and in this way each case seems to proceed satisfactorily as under any other form of treatment.

The presentation of such a diet as I have enumerated no doubt will stagger some of you and you will say that it is impossible for a patient with typhoid fever to digest and assimilate such a diet and I will say that they can and improve upon it, and I will say further that I have fed with such a diet fifty-one cases, all but two of the cases that I have had since July, 1904, with one death, all with the greatest satisfaction to myself and patients, which case was doing nicely, when suddenly seized with edema of glottis and died in two hours.

The advantages of the solid food diet are the maintenance of flesh and strength of the patient, the control of the temperature, restlessness and delirium, it precludes the possibility of bed sores and limits the convalescent period to a much shorter time than under any other form of diet as they are ready to sit up as soon as the temperature is normal and it promotes the general good feeling of the patient throughout the entire course of the disease.

In a case of hyperpyrexia associated with restlessness and delirium at the very incipiency of the disease or during any portion, the nurse should be instructed to feed the patient, carefully to avoid choking, as much solid food as she can each meal and before many days these symptoms will be seen in most cases to recede and the disease will pursue its ordinary course.

In children and in nervous, excitable patients, it is a most decided advantage in that it relieves their constant pleading for something to eat, making their care and management very much easier than under the old plan.

If the patient is seen late and is much emaciated, the solid food diet should be pushed as much as possible and as well enemata may be used to increase the amount of food taken.

The contra-indications to the use of solid food are an irritable stomach with vomiting, perforation and possibly in a severe diarrhœa, but only for a few days, while only in very severe intestinal hæmorrhage need the food be withheld.

The stools should be examined daily to ascertain if any food products are not being thoroughly digested, that there may be no irritation in the intestinal tract.

I sincerely urge upon you this plan of feeding in your typhoid cases, even though you pursue it in the most simple manner, feeling your way as it were, for I assure you that you will be most heartily pleased with the progress and comfort of your patients throughout the course of this most dreaded disease.

THE GROWING IMPORTANCE OF UNDERSTANDING PHYSICAL AND CHEMICAL LAWS IN MEDICAL PRACTICE.*

By A. A. GILLETTE, M.D.,
ROME, N. Y.

IT is my desire to emphasize the growing importance, to the medical student, of acquiring a thorough foundation in physics and chemistry, and the equal importance, to the practising physician, of keeping reasonably in touch with the changes and advancement in these departments of science. Knowledge of the constitution and properties of matter and the forces working through it no longer belong to the scientific dreamer, but touches most vitally every phase of human activity. The great material advances of the past and the present development and preeminence of man are directly proportionate to this knowledge, and to its practical application. Most especially is the nineteenth century noted for its advances in the realm of applied physics. Through human thought and effort energy, long slumbering in nature's store-house, is now being utilized for the purposes of the race.

The practical applications of science are so promising as to absorb the attention and influence the methods of the entire educational world. The claim has been made that "all branches of human knowledge are but portions of chemistry." It is true that chemical knowledge excites interest in natural phenomena and a desire for an explanation. Some one has said that:

"One who has learned the principles of chemical action and comprehended the great laws that the science has revealed looks upon the world in a new way. It produces a new type of world mind."

The practical application of this knowledge with its power of bringing material remuneration has engendered a spirit of commercialism advancing side by side with scientific achievement in a fierce struggle for the mastery. If in the future our profession aspires to the position of influence and honor due a learned calling it must see that all who enter its ranks are thoroughly grounded in physical and chemical knowledge. We must acquire and maintain the power of discriminating between the true and the false, the scientific and the commercial. We must cultivate a taste for the best in scientific literature, because that of the better type, current in these days, both lay and medical, frequently contains interesting and profitable articles relating to physical and chemical science. We must educate ourselves for the understanding of all that is permeated with the spirit of truth. This is necessary to avoid being mislead by the great mass of pseudo-scientific literature serving no better purpose than the selfish interests of those who seek to enrich themselves through human credulity.

* Read at the Annual Meeting of the Fifth District Branch, at Utica, October 5, 1911.

It is also essential in order that we may possess influence and power in enlightening the public in matters of health, and that we may exert leadership out of the darkness of pretense into the light of established and demonstrable fact.

Both medical literature and scientific discussion are, necessarily, full of the phraseology of physical and chemical science, and its nomenclature contains many new terms that can be understood only by those possessing a fundamental knowledge kept alive by constant interest and effort.

As the nineteenth century is remarkable for the advancement of the race in its knowledge and use of physical science, so the twentieth century promises to pass into history noted for its accomplishments in the realm of chemistry. All forms of life, from the lowest to the highest, manifest their activities subject to fixed physical and chemical laws that refuse to be ignored. The morphology and function of cells, as individuals and collectively as organs as well as the interrelations existing between cells and organs more or less remote, are influenced by the chemical composition and physical state of the cellular contents and their nutrient media.

Form modifications, both in the vegetable and animal kingdoms, are subject to these laws and may be in the nature of an increased, diminished, or assymmetrical development. Experimental and practical morphologists have fully demonstrated this fact in the improvement of the animal and vegetable kingdoms. Nutritional experiments in the maintenance, supra-maintenance, and sub-maintenance of the young during the process of growth, with careful measurements at regular intervals, show that the width of the skeleton may be increased in proportion to the height, or disproportionately retarded. This retardation or narrowing, under conditions of sub-maintenance, results in a return to the ancestral or "sun-fish" type in a few generations as the result of reversion or physiological adaptation.

Bancroft, of Cornell University, in his address as retiring president of the American Chemical Society, said:

"As a general rule every plant form depends upon a certain relation between different chemical substances in the cells and is modified by an alteration of that relation. That certain morphological changes in organisms are produced by the action of environment."

In a recent address, on "Problems of Animal Morphology," delivered before the Zoological Section of the British Association for the Advancement of Science, Bourne states in part:

"It has been proved by experiment that very small changes in the chemical and physical environment may and do produce specific form changes in developing organisms, and in such experiments the consequence follows so regularly on the antecedent that we cannot doubt that we have true relations of cause and effect. That from the morphologist's point of view hormones or internal chemical stimuli, the most primitive of all the animal mechanism excite and correlate form, as well as function, in the higher organisms."

The discovery, by Loeb, that certain marine animals may have their growth accelerated or retarded by slightly diminishing or increasing the osmotic tension of the surrounding fluid medium and the application of these laws of growth in the lower to the higher organism, by Carrel and Burrows, may open up, as suggested in a recent editorial in the *Journal of the American Medical Association,* most fundamental problems in biology and medical science. Problems concerned with the various internal secretions, such as the artificial growth of the thyroid, as suggested by Carrel, and the possibility of hastening the repair of wounds along the line of Ruth's work, who was able to retard or accelerate the rate of growth of epithelial cells by injections into animals of hypertonic solutions or distilled water.

From experiments altering the osmotic pressure of the plasma the above-mentioned workers conclude:

"Every tissue has its optimum medium for growth, but the power for growth is kept under constant restraint, that every organ is compelled to follow the morphologic plan of the organism. That if it were not for this regulation of the normal blood plasma, cells would grow without restraint, the organs and tissues would lose their relative size and morphology and the whole body would become monstrous."

Problems, dealing with the influence of physical and chemical processes in the maximum, symmetrical development of living organisms, are more and more engaging the attention of practical workers. Chapin, in his presidential address before the American Pediatric Society last May, says, as published in the *Journal of the American Medical Association:*

"The beneficial effect of variety of diet has long been known, but the scientific basis on which it rested has not been suspected hitherto." He is speaking of the influence of foreign substances called catalysts whose mere presence stimulates important changes in physical and chemical states, and illustrates the value of this knowledge in practical feeding, for, he continues, "we often get the . . . good effect by changing the flavor of the infant's food or by altering the form of the food elements." . . . "Such facts," as the above, he says, "could never have been explained by practical infant-feeding, or rather the principles could not have been evolved, and this shows the advantage of being familiar with general science and applying principles worked out elsewhere" (referring to the fundamental sciences) "to the management of infants." Again he says, speaking of the high places pediatrics should take, "as it deals with the first and formative period of life, and consequently renders the most lasting service to the race. Fully to occupy this field its followers must apply the

general and broad methods of science at large to the solution of its problems."

All functional activities of living cells and organs are coming to be explained and understood as physical and chemical processes. The cell is the unit and the colloidal solution, or suspension, the physical basis of life. Its vital activities, both physiologic and pathologic, are dependent upon the physical state and chemical constitution of the cellular protoplasm and the nutrient medium in which it lives.

Cells acting physiologically, strive to maintain such a chemical state of the surrounding plasma as best suits the natural working of the entire organism. By means of cell enzymes, which cause chemical reactions furnishing such specific chemical bodies as hormones, the circulating body fluids are kept constantly in a suitable state for the proper chemical stimulation or inhibition of all the complex functions of life. The ready entrance of substances into and diffusion throughout the cellular colloids is probably not dependent on vital selection alone, but is also largely influenced by the osmotic pressure and chemical constitution of the colloidal protoplasm and of the surrounding plasma, as well as upon the surface tension of the various intra-cellular protoplasmic inclusions.

The permeability of various types of cells to the same or different ingredients contained in the nutrient plasma is apparently not the same, but probably may be altered, either increased or diminished to a given substance, by variations in the physical and chemical state of both cell and plasma. The effect of these diffusion substances upon the function and life of the cell must be studied in the light, and in a measure expressed in the terms of chemistry, or physico-chemistry. If chemical affinity exists between any part of the cell protoplasm, especially the nuclear inclusions, and substances chancing to be diffusing through it, the result probably depends upon whether the invading molecules capable of fixation are harmful or not. In the case of the tetanus toxin reaching and diffusing through the intra-cellular contents of the central nervous system chemical union is firm and disastrous to function and life.

The discovery of aniline and thirty years later its utilization, by Perkins, in the preparation of purple dye, marks the beginning of modern synthetical chemistry. Succeeding years have witnessed the achievements in the preparation of many invaluable products. Some of these are in imitation of natural substances, others are entirely new and mark the triumph of chemistry, and of its study and practical application. Through the various aniline compounds chemistry has greatly facilitated the study of histology, both normal and pathologic. It has made possible bacteriological investigation and lies at the foundation of this modern science. Synthetic combined with physiological chemistry, by Ehrlich, gives us the new science of chemotherapy. Whatever its future may be, it has already demonstrated the possibility of greatly improving our therapeutic resources by means of its various branches.

Calcium, so-called "inorganic balance of the organism," and its salts, has given an excellent opportunity to study the nature of simple chemical substances in their relation to the body fluids, and the physico-chemical processes concerned in calcification and ossification. Such literature as the Harvey lecture, on the above subject, delivered by Wells last March, and published in the June *Archives of Internal Medicine,* is worthy the spare moments of any busy physician. Fundamental training in physics and chemistry and daily reading should be such as to render the above and similar subjects not only profitable and stimulating, but also highly enjoyable and restful. If there is truth in Dr. John B. Murphy's statement that, "the *Journal of the American Medical Association* is the best journal of its kind in the world, printed in any language, but that it is becoming too technical for many of its readers," we should not ask that its standards be lowered, but rather strive to elevate our own scientific knowledge and tastes to its requirements.

In a lecture, on "The Chemistry of Anesthetics," delivered before the American Chemical Society in June of this year and published in *Science* of August 11, 1911, Baskerville says in his conclusions that:

"Modern studies in physiology have unquestionably shown that the animal body exists to a great extent by virtue of the chemical and physical changes going on within it. If we wish to control a physical or chemical change in the laboratory we endeavor to become familiar with all the factors and conditions. One of the essential factors in controlling a chemical process is the quality of the material with which we are working."

He says this with reference to mortality statistics and the necessity of further observations as to the real physiological effects of drugs carried into the system by the pulmonary route. He also says that:

"Impure foods, sophisticated intentionally or otherwise, may bring on disease. Impure drugs, concocted or otherwise, fail to produce the full effect planned by the physician in curing disease. Idiosyncrasy has seemed to account in large part for untoward after-effects of anæsthetics and certain disagreeable consequences as nausea, and interference with some normal organic function, as glycosuria and albuminuria, have often been regarded as natural results of anæsthesia and taken for granted. They may now be largely obviated and in many cases entirely avoided by the use of anæsthetics that are free from impurities, and by improved methods of administration. These cases are based upon chemical evidence. We now have records of five thousand cases. It has been shown that the administration of moist ether, free from aldehyde, at body temperature

is rarely followed by nausea, less than 10 per cent., and the usual strain upon the kidneys is not observed. Nitrous oxide, ether and chloroform each exerts its specific physiologic effect in producing anæsthesia without asphyxiation, provided the respiration and cardiac function are approximately normal. This may be and is being accomplished by administering these gasified drugs with sufficient oxygen not to interfere seriously with the normal function of the hæmoglobin of carrying oxygen to the capillaries and sustaining cardiac stimulation, and by maintaining the usual concentration of carbon di-oxide in, and providing its regular elimination from, the blood, for it is the respiratory stimulant. Other factors involved are temperature and moisture. The anæsthetics are carried into the system at body temperature. This may be and is being accomplished by warming and, in the case of ether and anæsthetic chloroform, by passing the vapor through heated water, which at body temperature, not only removes the oxidation products, but saturates the gas with moisture. The osmotic action of the alveolar cells is thus affected only to the extent of the densities of the gases introduced into the lungs, and not, as is normally the case, by temperature and dessication as well. In other words, by the application of the principles of modern physical chemistry, the numerous variables are so reduced as to secure the real physiological effect of the particular anæsthetic drug after it enters the system. Nitrous oxide and oxygen may be used for prolonged anæsthesia and successfully for 80 per cent. of surgical cases, furthermore, ether and chloroform may be used with equal safety. The real and no supposititious idiosyncrasy of the patient may be met. The expert anæsthetist may now not only make it possible for the surgeon to perform even greater miracles, but with more comfort to himself in his work and with greater happiness and less discomfort to the patient."

Time will not permit more extensive illustration and quotation to emphasize the growing importance of understanding physical and chemical laws in medical practice. The chemistry and calory value of foods, and their suitable selection in accordance with the peculiar physical and chemical requirements of individuals under varying conditions of health and disease is a subject of vital importance and should occupy the attention of every true physician. Pediatrists interested in the proper growth and development of children need to study the physical and chemical laws leading to the best general development of form and function, and learn adaptation to individual cases. Repair and healing of wounds, abnormal growths, hypersecretion (as in the case of hyperthyroidism) most certainly interest the surgeon and should stimulate a desire to understand the underlying physical and chemical state, both physiologic and pathologic. We are now led to believe that the objective and subjective manifestations of infectious conditions are, largely if not entirely, due to the chemical inter-reaction taking place between the toxins generated by the invading organisms and the various antebodies elaborated by the infected host.

The bond of union between the members of the medical profession should be the common knowledge and interests of fundamental science. The spirit pervading our societies and literature should be that of truth with hearty dislike for pretense and all that is false. If we determine to cultivate this knowledge and this spirit, and to strive to infuse it into the younger generations of our profession the world will be the better for our lives and work, and our own remuneration, honor and happiness enhanced. Charletanism, either among or outside the members of our calling, is best silenced by scientific attainment and truthfulness.

Insist then that all future applicants to our ranks be thoroughly grounded in the physical and chemical sciences. May the older members inspire by the fire of their enthusiasms in the search for deeper truths still concealed in nature's storehouse.

PRESIDENT'S ADDRESS—OUR SOCIETY.*

By J. S. WHITE, M.D.,
SOUTH GLENS FALLS, N. Y.

THIS is the eleventh annual meeting of the Saratoga County Medical Society.

On September 28, 1900, a few physicians of the county met at Saratoga Springs and organized our present prosperous organization. Nearly a year from that time the first scientific meeting was held here in Mechanicville, N. Y. Since that time we have held meetings several times each year in various towns of the county.

The attendance has always been good, considering the fact that our membership is scattered in many small towns, Saratoga Springs, alone, being the largest with twenty-six physicians. The County Society now has forty-nine members, representing thirteen different colleges, six different states, and Canada. Twenty-six of the forty-nine are Albany Medical College men; four represent the University of Vermont; the other colleges represented are: Dartmouth, Howard, Cornell, Harvard, New York University and Bellevue, New York Homeopathic, Buffalo, Physicians and Surgeons, New York, New York University, Michigan and McGill. Thirty-six graduated from colleges in New York State, seventeen members received degrees more than twenty years ago, six more than thirty years ago, and three more than forty years ago.

The honor of being the oldest graduate of this Society falls to Dr. Strong of Saratoga Springs, he being a graduate of New York University

* Read at the Annual Meeting of the Medical Society of the County of Saratoga, at Mechanicville, September 26, 1911.

forty-nine years ago. He is well, hale and hearty, up to date in the profession, and still sets the pace for many of our younger members.

There are twenty-five physicians in good standing in the county who are not members of the County Society. Many of you will remember what ex-President Roosevelt said as a result of his investigation of the condition of the farmers throughout the United States. It was: "Farmers, get together." The same advice (Physicians, get together), might well be given to the physicians of this county.

Membership in the County Society keeps one in touch with the constant march of progress in new methods and new treatment. A few years ago a physicians' library containing copies of the standard authors was considered complete. Now many volumes that are but a few years old are almost worthless, and some are merely books of curiosity.

A well-organized county society furnishes the best kind of defense in malpractice accusations. Of course, the state society offers, in the terms of our membership, to do this, but personal local help in defense goes further than any other. Many of us go through a long life of practice without having to defend a suit in court; but even with our very best management any of us are liable to be confronted by a greedy client and a thirsty attorney, both looking for blood money. A few years ago a reputable Glens Falls, N. Y., physician prescribed a one-half ounce box of nitrate of mercury ointment (citrine ointment), with directions to come to his office and report when used. Instead of reporting to the doctor the patient kept getting his prescription filled and re-filled, until, by prolonged use, he became terribly salivated. He sued the doctor in the Supreme Court for $5,000 damages. The doctor asked his medical friends to help him and twenty-four Glens Falls physicians, myself included, went before the court and jury and showed to their satisfaction that the doctor was not at fault, that the ointment was in common use by the medical profession, and that the patient erred in continuing its use without the doctor's advice. The jury brought in a verdict of no cause of action.

I speak of this as showing what association and acquaintanceship will do. Let us see if we cannot get all of the reputable physicians in the county to unite with us, explain to them the protection offered by the state society and the included subscription to the State Journal and the Directory.

There is a possibility soon of the establishment of a useful post-graduate course for county societies. The New York State Department of Health is now making an effort to place before the entire medical profession, through our county societies, their latest researches on all subjects pertaining to the conservation of the health of the people. They will furnish us with speakers and illustrated lectures upon small-pox, carriers of disease, preventable diseases, sanitation of a country home, tuberculosis, typhoid fever, vital statistics, rabies, diphtheria, sewage disposal, filtration of water, and many others. I think it will be well to avail ourselves soon of this kind offer.

The papers read at the meetings of the County Society deserve more than passing notice. Many of them have been printed in the State Journal, and not a few of our members have contributed to the *Journal of the American Medical Association.* By the way, don't forget that Saratoga County, not many years ago, had the proud distinction of entertaining the American Medical Association. If perseverance counts, we will again have that honor soon. Socially, too, our organization is a grand success. What more genuine comfort can we take than smoking the pipe of peace together and telling stories that would perhaps seem out of place to our patients? This same sociability prevents discord in the society. There is no question but that the free expression of wit and humor, with a little something to satisfy the inner man, is a success.

New members are constantly coming in and I predict that in a short time Saratoga County can present a solid front.

SYPHILIS OF THE NERVOUS SYSTEM.*

By EDWARD A. SHARP, M.D.,
BUFFALO, N. Y.

SYPHILIS is a very important factor in the etiology of nervous diseases and the damage done to the nervous structures is one of the most serious results of syphilis.

The recent analysis of the material of the Neurological Department of the Vanderbilt Clinic by Jelliffe and Brill shows 858 cases of syphilitic disease in 18,285 cases examined, or about 4.7 per cent., including tabes and general paralysis. The definite tertiary lesions of the brain and spinal cord includes 238 cases, or about 1.3 per cent.

In this analysis there are also 6,177 cases grouped under the clinical diagnosis of one of the following, viz.: neurasthenia, headache, epilepsy or cerebral arterio-sclerosis. Undoubtedly some of these had a syphilitic basis, but for clinical diagnosis they were grouped under the above named headings and so the full quota of syphilitic disease is not shown.

Starr estimates that about ten per cent. of all nervous diseases are due to syphilis.

The statistics given by Nonne (Syphilis und Nervensystem) show 173 cases of syphilis in 11,149 neurological cases or about 1.5 per cent.

Fournier (quoted by Nonne) in 3,429 cases of tertiary syphilis found various lesions of the nervous system in 1,093 cases, or 32 per cent.

Henschen (quoted by Oppenheim) recorded

* Read before the Eighth District Branch, at Dunkirk, September 26, 1911.

112 cases of brain syphilis in 754 cases of syphilis under hospital treatment, or 15 per cent.

Dejerine states that over two-thirds of all cases of paraplegia are due to syphilis.

Langdon reported 25 cases of syphilitic myelomalacia in 1,649 neurological cases at the Cincinnati Hospital.

According to Gräfe over 50 per cent. of all eye muscle paralyses are due to syphilis.

The pathological changes produced in the nervous system as a result of syphilis are usually the tertiary lesions, consisting of the vascular changes, the chronic hyperplastic inflammation, and the gummatous new growths.

In addition to these specific tertiary lesions there frequently occur other changes of a degenerative nature, probably due to the action of toxines, and which are classed as para- or meta-syphilitic. In this latter class are included tabes and general paralysis, which will not be discussed in the present paper.

No part of the nervous system is immune to syphilis and the extent of damage may vary from a minute localized endarteritis or gumma to a general cerebro-spinal affection.

In the brain the most frequent condition is a gummatous meningitis starting at the base, and involving the brain substance, the blood vessels and nerves by pressure and infiltration.

The arteries are attacked by a specific endarteritis, the lumen of the vessels becomes diminished and the walls thickened by a gummatous infiltration. Thrombosis is liable to occur in the arteries entering the fissure of Sylvius or in some of the distal branches and secondary softening and necrosis of nerve tissue results.

The gummatous exudate surrounds and infiltrates the cranial nerves producing paralysis or disturbances of function.

The specific meningitis and the arterial changes may extend over the entire cortex or may be localized to small scattered patches.

Involvement of the cortex occurs by extension from the meninges producing an encephalitis or a meningo-encephalitis.

Gummata may develop in any part of the brain and produce the clinical signs of brain tumor.

In the spinal cord the pathological anatomy is usually a diffuse gummatous meningitis or a meningo-myelitis. The pia-arachnoid or the dura may be separately involved, but usually the former is the starting point and the hyperplastic infiltration extends to the dura and into the cord. The meninges may surround the cord as a thickened ring or the proliferation may occur in scattered areas over the surface of the cord. As the posterior and anterior spinal roots pass through the thickened membranes their function is disturbed by pressure and infiltration. All grades of thickening may occur from slight arterial changes in the pia to a dense pachymeningitis.

The blood supply to the cord becomes disturbed by the arterial changes and thrombosis results in softening and necrosis. These areas of myelomalacia may be scattered diffusely throughout the cord or are wedge shaped and situated in the distribution of the arteries supplying the periphery of the cord.

Nervous symptoms are usually a tertiary manifestation of syphilis and do not develop until a year or more after the initial infection. Occasionally nervous symptoms develop within a few months after infection, and in hereditary lues they may occur soon after birth.

The great variation in the character and extent of the pathological anatomy produces a corresponding diversity of symptoms as nearly every organic nervous disease may have a syphilitic basis.

In a paper of this character it will be impossible to even mention all the various clinical forms that syphilis might assume and the discussion will be limited to some of the more common symptoms as illustrated in the accompanying case histories.

One of the earliest and most constant symptoms of cerebral syphilis is headache, which follows the usual character of syphilitic pains in being worse at night and occurring in paroxysms. With this may be associated other symptoms of a vague, indefinite character, such as vertigo, insomnia and mild mental symptoms, due to the arterial changes.

Premonitory signs of numbness, tingling and temporary weakness or loss of power may precede the onset of a hemiplegia, or the paralysis may come on suddenly, without warning. Aphasia or dysarthria may occur alone or be associated with the hemiplegic symptoms. After a few months these symptoms gradually clear up more or less completely and then are liable to recur. Hemiplegias and aphasias in persons under 40 years of age are most frequently caused by syphilis.

Epileptic convulsions may occur and be limited to the hemiplegic side, with a definite order of invasion and without loss of consciousness, a true Jacksonian convulsion from cortical irritation. According to Turner a specific meningitis is the most frequent cause of Jacksonian epilepsy. The convulsions may start in the hemiplegic side and spread to the opposite side, and consciousness is completely lost. In other cases the convulsions are generalized from the onset and are not associated with hemiplegic symptoms.

The basalar meningitis produces symptoms referable to the cranial nerves. The II, III and VI nerves are most frequently affected, producing the visual disturbances, pupillary changes and paralysis of ocular muscles which occur so commonly in cerebral syphilis.

Inequality and irregularity of the pupils with slow reaction to light or the genuine Argyll-Robertson pupils are frequently seen.

The pupillary reactions to light and accommodation play a very important role in the early diagnosis of syphilis. Altho a few cases have

been reported in which non-syphilitic lesion of the cerebral peduncles have produced Argyll-Robertson pupils, the importance of this sign is concisely expressed by Grasset (Revue Neurologique, 1909) that "clinically we can conclude that the Argyll-Robertson pupil indicates most frequently a tabes, sometimes a general paresis, *always a previous syphilis.*"

Among the ocular palsies those of the III nerve are most frequent. Any one or all of the muscles supplied by the oculo-motor nerve may be weakened or paralyzed. A slowly developing ptosis, followed by paralysis of other eye muscles is a common symptom. Paralysis of the VI nerve may occur alone but is usually associated with the III nerve paralysis. Paralysis of the IV nerve never occurs alone but in a few cases it has occurred in association with the III paralysis. The various combinations of ocular palsies may involve one or both eyes and may be partial or complete. In a general way it may be said that a III nerve paralysis is characteristic of syphilis while an isolated paralysis of the VI nerve suggests a multiple sclerosis.

Involvement of the other cranial nerves occur less frequently but may be present in some cases.

The most frequent clinical expression of spinal cord syphilis is a paraplegia of the lower extremities. Uusually some cerebral symptoms are present at the same time, as cases of pure spinal syphilis are not common.

Premonitory signs as fatigue, heaviness or weakness of the legs or a sensation of stiffness after exertion may exist for several weeks before the loss of power becomes complete, or a slowly developing spastic paraplegia may occur without complete loss of power. The symptoms usually develop first in one extremity and then extend to the opposite side.

Depending on the site of the lesion the paralysis may be spastic or flaccid. In the lower extremities it is usually spastic and is associated with exaggerated reflexes, a spastic gait, and the Babinski toe sign.

Some disturbance of the sphincters is usually present, such as incontinence, urgency or hesitancy of micturition, and constipation is a common symptom.

Pressure and infiltration about the posterior roots produce irritative symptoms as paræsthesias, hyperæsthesias, pains in the back, girdle pains or radiating pains in the extremities.

Objective sensation in the paraplegic limbs may be intact or there may be varying degrees of diminution up to complete loss.

The frequent variations in the intensity of all these symptoms, the increase and decrease of marked signs of brain and spinal cord involvement and the irregular and inconstant character of the clinical picture is characteristic of cerebrospinal syphilis.

The following histories of cases recently under observation are selected to illustrate the more common manifestation of the disease.

Some of these cases are at the Erie County Hospital and I am indebted to Dr. Sloan and to Dr. Putnam for the privilege of studying the cases on their services.

Case I.—Male, age 51 years. Erie County Hospital. Had syphilis 10 years ago and under treatment for two months. Remained well until April, 1911, when right eye began to droop and became completely closed in about 6 weeks. When the eyelid was held open he saw double. There is complete ptosis of the right eyelid. Right eye can be moved outward but cannot be moved up, down or inward. There was also a slight paresis of the right side of the palate and at times a slight dysarthria. The tendon reflexes were exaggerated. No sphincter trouble. Under anti-syphilitic treatment the ptosis has nearly disappeared and there is a fair amount of movement of the eye in all directions except upward.

Case II.—Male, age 44 years. Referred by Dr. Blaauw from Charity Eye and Ear Hospital. Nine years after syphilitic infection a slowly developing ptosis occurred in the right eye and then in the left. Ptosis did not become complete. At the same time a paralysis of ocular movements gradually developed. The right eye became motionless and could not be moved in any direction. The left eye could be moved outward by action of the external rectus.

The pupils are irregular and unequal and there is no reaction to light or accommodation. The lower edge of left pupil is held down by adhesions. The heart is very irregular and patient has choking attacks which resemble laryngeal crises. There are also shooting pains in the lower extremities, a girdle sensation and bladder disturbances.

Case III.—Male, age 31 years. Had syphilis at age of 20 years. Ten years later began to have weakness of the left foot and arm. Then convulsions occurred, limited to the left side and followed by numbness in the left foot. Convulsions occurred daily, without loss of consciousness. About two months later headaches became constant and vomiting occurred. Marked insomnia and severe optic neuritis developed and the loss of power in the left extremities became complete. Then he had convulsions limited to the left side of the face. Coma rapidly developed and death followed operation for brain abscess, which at autopsy was found to be a large broken down gumma in the right motor cortex.

Case IV.—Male, age 27 years. At Craig Colony for Epileptics. Patient has a marked arterio-sclerosis and other signs of syphilis, which was possibly congenital as he denies infection. At age of 24 years he had a right hemiplegia, with aphasia and bladder disturbances. Six months later began to have epileptic attacks, preceded by an aura of vertigo, and convulsions commencing on the right side, becom-

ing generalized and with complete loss of consciousness.

Case V.—Male, age 40. At Craig Colony. This case presents an interesting history showing the effect of syphilis in producing epilepsy. At the age of 13 years, while watching a target practice, he was struck in the head by a deflected bullet, producing a fracture of the skull and laceration of brain substance. He recovered from this completely and remained well until the age of 34 years when he contracted syphilis. About a year later he had a stroke of paralysis producing a left hemiplegia. Grand mal epilepsy developed about a year after this.

Altho at 13 years of age he had a severe trauma to the head, sufficient in many cases to have produced epilepsy, it was not until after contracting syphilis 21 years later that convulsions developed, following a hemiplegia from syphilitic arterial changes.

Case VI.—Male, age 25 years. Erie County Hospital. Had syphilis in 1909. About one year later while walking home from work he had a convulsion in the right arm. No loss of consciousness. Continued walking but for a few minutes could not hold arm still. Four days later he awoke in the morning and found right arm and leg very weak. Was able to walk but the right foot dragged. After this weakness had existed about a week he became aphasic and lost speech for several months. The speech returned gradually and the hemiparesis slowly improved. For three months previous to this attack he had had severe headaches. At present the pupils are irregular and unequal but react to light and accommodation. There is a slight diminution of muscular power in the right arm and leg as compared to the left. The tendon reflexes are exaggerated on the right and Babinski toe sign is present. The abdominal and epigastric reflexes are absent on the right, and on the left side they are easily exhausted.

Case VII.—Male, age 47 years. Erie County Hospital. Had syphilis some years ago. 2½ years ago while at work rapidly lost use of left arm and leg. Did not lose consciousness and did not have convulsions. Gradually recovered from this left hemiplegia and remained well until about a year ago when the weakness gradually returned in the left leg and arm. Since then there has been some recovery up to the present time, and he now shows weakness of the left lower face, arm and leg. Reflexes are exaggerated and the gait is spastic.

Case VIII.—Male, age 40 years. Erie County Hospital. Had syphilis in 1892 and under treatment for 3 months. Four years ago the left leg became gradually weak and four months later the right leg became involved. Was unable to walk for a year and then a gradual improvement occurred. At present there is a marked spastic paraplegia with great rigidity in the lower extremities and some rigidity in the upper extremities. All the deep reflexes are exaggerated. Babinski and Oppenheim reflexes are present. The gait is markedly spastic and he walks with aid of two canes with body inclined forward. There is some involvement of the sphincters as shown in hesitancy of micturition.

Case IX.—Male, age 33 years. At Craig Colony. There is a marked neuropathic heredity and patient has had grand mal epilepsy since 20 years of age.

Contracted syphilis in 1903, at age of 25 years. In 1908 a slowly developing weakness and stiffness occurred, first in the left leg and later in the right. His gait was very stiff and awkward and there was a marked clonus in the legs which patient described as "being very nervous in the legs and the legs would tremble." He gradually improved and nearly recovered, and then there was a recurrence of the weakness and stiffness. This has happened several times. At present the gait is spastic-paretic but the muscle rigidity of the lower extremities is very slight. The knee jerks are exaggerated and the Babinski toe reflex is present, but most marked on left.

This case conforms to the Erb type of syphilitic spinal paralysis and contrasts with Case VIII in which there is marked rigidity of the lower extremities.

Case X.—Male, age 25 years. Congenital syphilis and had convulsions in infancy. At the age of 13 years had an attack of vomiting, vertigo and progressive loss of power in the lower extremities coming on in about two weeks. Then there was a gradual improvement and he recovered in a year. At 16 years had a recurrence of weakness and lost all power in the lower extremities and in the right arm, followed by gradual recovery. Third attack at 22 years from which he has not completely recovered.

At present there is a slight spastic paraplegia of the lower extremities, with exaggerated reflexes and Babinski sign. The pupils are unequal and irregular, reacting only slightly to light but fairly well to accommodation.

In regard to prognosis and treatment we must consider two factors, the active syphilitic lesions and the destructive changes produced by these lesions.

The brilliant results obtained by early and proper treatment of syphilis of the nervous system, the complete disappearance of serious symptoms before destructive and degenerative changes have occurred, should stimulate us to energetic treatment of these cases.

In the cases of long-standing or in the metasyphilitic diseases there frequently persists active syphilitic lesions which are amenable to treatment, altho recovery from the degenerative changes and scar tissue formation produced by these lesions cannot yield to treatment.

The details regarding treatment will be covered by another paper in this symposium and I will only insist that such treatment must be

heroic at times to prevent destructive changes which are beyond the influence of anti-syphilitic treatment.

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162 Allen Street.

THE LOCATION OF THE HOSPITAL FOR THE INSANE, AT OGDENSBURG.*

By JOHN VAN DUYN, M.D.,
SYRACUSE, N. Y.

SOME years ago the State of New York was divided into sections, each to be provided with a hospital for the treatment and confinement of the insane. As is usual in such matters selfish interests controlled and humanity was disregarded. At that time a man famous in his locality, with abundant persuasion, influenced the authorities at Albany to build at Ogdensburg the hospital for the district in which Syracuse and Oswego were located. The story of this—which I now call an outrage—is familiar to you all.

It has long been a source of regret that Syracuse has had no hospital for mental diseases within reach to which the sick in mind could have access for early treatment. Rochester for a long time has had such a hospital. This large village fraternity of Syracuse has hardly yet awakened to its needs and necessities. Ogdensburg is 137 miles from Syracuse by the timetable, the journey takes five and one-half hours, and it costs $6.90 for the trip there and back. That the patient once housed in the hospital at Ogdensburg is well cared for and scientifically treated does not come at all into the question. The objection here raised is one that concerns the distance between Syracuse and its hospital and all the hardships which that distance entails. Not infrequently I am assured that five and one-half hours' journey has been the cause of death to some exhausted sufferer that might have been saved. Not infrequently the patients from Syracuse arrive at the hospital in an exhausted condition and are returned in a box to Syracuse within ten days.

The insane remain very dear to their friends, and yet in a great majority of cases their removal to the hospital at Ogdensburg is a separation forever. The average man, of whose family one has become insane, is a wage-earner. He has to support his family on an income which leaves but little, if any, surplus. It is necessary for him to work every day. To go to Ogdensburg to see his wife or child necessitates the loss of two days and a night, with an expense of $6.90 for the round trip, besides the cost of a hotel and living two days and one night. This expense of time and money is what makes the journey, even to see a near and dear relative or friend, an impossibility.

But in all probability what is of nearer concern to us as medical men, is the evil which this distance inflicts upon the invalid. What I have said before is quite well known to our people, so that when insanity is diagnosed in a member of the family, the long removal from home, the almost dead certainty that the invalid will never be seen again, and the prospect of death because of the transfer, act to make a resistance to subjection to proper treatment at Ogdensburg. The time of the early stage of the trouble when relief is possible and even probable is passed in fruitless effort to care for and cure the patient at home, and when despair seizes the poor mother caring for her child, or daughter caring for her parent, then and then only is removal allowed. The case now has become chronic and recovery improbable. I refrain from taking the time of this meeting in giving specific instances in illustration of this because I am sure that nearly every one present can equal from his own experience what might occur to be from mine.

In referring to the report of the St. Lawrence Hospital I find that for the ten years from 1899 to 1908 inclusive, there were a total of 893 commitments from Onondaga County. They increased in number per year from 80 in 1889 to 120 in 1908. The 24th Annual Report, or that of 1911, states that on October 1, 1910, Onondaga County had 437 patients in the hospital. During that year 128 were admitted from this county. This does not give the actual statistics of insanity of the county, because not a few take their friends to private institutions. And then, again, not a few who, knowing the disadvantage of the distance between Syracuse and Ogdensburg, beseech the Superintendent of the Poor to send their sick to some neighboring institution within reach. The Superintendent of the Poor tells me that he is frequently besought to send people to Utica, which he is enabled to do at times through some provision of the law which gives him that power.

This statement of facts should lead to an earnest effort on our part and on the part of the humane of our city and county to correct the evil which must increase with the increase of insanity. It seems to me that there is no time like the present for an agitation in this regard. Governor Dix has made it publicly known that the hospital at Utica on account of the city's growth is badly located, and advocates its removal from the City of Utica to another and better location. I propose that if this subject at-

* Read before the Onondaga Medical Society, at Syracuse, September 26, 1911.

tract the interest of the County Society the Society take an early action looking to the accommodation of our insane in the new institution proposed by Governor Dix.

"OXYPATHY."*

By CARL G. LEO-WOLF, M.D.,
NIAGARA FALLS, N. Y.

DO not get frightened, gentlemen, by the title of this paper, and imagine that I am trying to pass off on you a new "pathy," a system of healing "without the use of the knife or drugs, etc.," or that I am trying to form a new "school" of medicine.

Do not fear! I am only going to tell you about a new theory attempting to explain some of the digestive disturbances in infants, the reading of which has interested me greatly and the principle of which has proven of some value in my practice.

French pediatrists have recognized for a number of years a condition called arthritism, and they have written a great deal about this; the same or at least a very similar condition has been described by English and American pediatrists as lithemia; only within the last six years has this same symptom-complex found recognition in the German pediatric literature as exudative diathesis a name which has been given to it by A. Czerny.

According to the German pediatrist, W. Stoeltzner, of Halle, from whose monograph,† published in the beginning of this year, most of this paper is taken, and who also deserves, as far as I am aware, the sole credit for the new theory herein propounded, the principal symptoms of this condition are as follows:

In infancy: We observe that these children do not thrive, they are pale and flabby, their abdomen is distended, their stools are solid and gray. They are frequently sufferers of eczema, prurigo and urticaria, as well as of recurrent attacks of catarrhal affections of the pharynx and bronchial tubes.

In childhood: These children have enlarged tonsils, pharyngeal as well as palatinal; the skin troubles mentioned above are accompanied by considerable itching, which, according to some authorities, as, for instance, Pfaundler of Munich, is the primary condition; the cough accompanying the bronchitis is very obstinate; we may also observe real bronchial asthma, which may in some cases interchange with the eczema. These children are frequently sufferers of pavor nocturnus and also of headaches, and they possess a very changeable temper.

In adults: The number of affections attributed to this condition is very large and varied. Eczema, pruritus, acne and psoriasis; bronchial asthma and chronic headaches; mucous colitis and migraine, which have by some been attributed to this condition, I personally would prefer to regard as due to eye-strain; though this latter condition may again be one of the symptoms of this diathesis; neurasthenia and hypochondriasis. These patients are often sufferers from diabetes, gout, nephrolithiasis, cholelithiasis and many other chronic disorders.

This condition is usually inherited, a true diathesis, but it may also be acquired by overindulgence in meats, fats, tobacco, alcohol, tea and coffee, especially when this is added to a mental occupation and sedentary habits.

Though you will think that the symptoms I have given are many and varied, their list is by no means exhaustive, and if you will only pay attention to these conditions and to their frequency of occurrence and their relationship you will be able to add many others, and you will also be able to get entirely new views of many conditions in children which have heretofore been inexplicable.

Stoeltzner sees the origin of these disorders in an alimentary or constitutional insufficiency of the body to eliminate from the system those acids which cannot be oxydized, without at the same time lowering its supply of fixed alkalies below the point at which the patient can retain perfect health; he has, therefore, given it the name Oxypathy.

To come now to the digestive disturbances of infants; you all know that we meet these mostly in artificially, or better, unnaturally, fed infants, and as these are mostly brought up on cow's milk or its mixtures, we will have to look for the damaging substance in this.

Cow's milk is undoubtedly the ideal food for the calf, for which it is the natural homogenous food; the calf, however, grows much faster than the human young, and when we compare cow's milk with human milk we will find that the former abounds in those substances which are necessary for a rapid growth, namely, protein to build up the soft parts, and lime and phosphoric acid for the growth of the bone. Recent investigation has taught us that the protein in the cow's milk is harmless to infants. Further, that though the infant is well able to assimilate all the lime and phosphoric acid contained in human milk, that it has to eliminate a large percentage of these substances when fed on cow's milk.

Besides the overlarge quantities of phosphate of lime the milk of the cow also contains an overabundance of fat, that is, for the infant, which must therefore be eliminated.

In the intestinal canal this fat is split up into glycerin, which is harmless, and into fatty acids, which latter combine with the lime contained in the phosphate of lime, forming soaps, and thereby liberating phosphoric acid, which is non-oxydizable; this is absorbed in the intestinal canal and acts as a poison to the system.

In a few words Soeltzner's new theory is this:

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* Read at the meeting of the Eighth District Branch of the New York State Medical Society, Dunkirk, September 27, 1911.
† Oxypathy, by W. Stoeltzner, S. Karger, Berlin, 1911.

Many infants do not thrive on cow's milk on account of an alimentary poisoning with phosphoric acid.

In children suffering from florid rickets some of the lime salt deposited in the bones is redissolved and excreted, thus increasing the amount of phosphate of lime and therefore of phosphoric acid in the intestinal canal; this will explain the increased difficulty of feeding rachitic infants with cow's milk.

So much about this new theory, as time does not permit me to go into this more extensively and I must therefore refer you to Prof. Stoeltzner's original publication.

Now for the remedy: First of all we must give such mixtures of cow's milk in which the fateful combination of too much fat and phosphate of lime is eliminated; second, we add a fixed alkali to the food to bind the phosphoric acid if this should be liberated.

The mixtures of cow's milk which are efficient are too many to mention here and you all have undoubtedly your favorite mixtures which have given you good results, and it would be carrying owls to Athens to go into details.

As to the second point in our theory, the addition of a fixed alkali, in 1893, Wright of England, advised the addition of ½ per cent. of sodium citrate to the food of infants with the idea of retarding coagulation of the cow's milk and thus making the proteid easier of digestion. This addition of sodium citrate proved beneficial in the hands of a number of English and American pediatrists and was also found to stop obstinate vomiting in infants.

Stoeltzner in his search for a suitable fixed alkali finally accepted sodium citrate as the best, but he did not add it with the idea of making the proteid of cow's milk easier of digestion, but to bind the free phosphoric acid and thus to correct the oxypathic conditions of the cow's milk mixtures; he adds the point of a tableknife of this salt to each bottle immediately before feeding, or more correctly, he advises the administration of 4.0g. (one dram) per diem.

You will realize that owing to the relatively short time elapsed since the publication of this monograph I have not had a chance to try it very thoroughly, but I have used the sodium citrate to some extent and it has certainly seemed to work well.

Let me cite to you briefly a few cases from my records:

Case I.—Girl, B., seen first June 1st; born August, 1910; nursed one week, then Horlick's malted milk for five months, Eskay's one month, oatmeal water one month, Allenbury's since, also white of egg and arrowroot biscuits. Diarrhœa last six weeks, brown, slimy, malodorous; slight eruption on cheeks, dry eczema, crying all the time, especially at night; weight 14 lbs. 5½ oz.; seen again on June 9th; mother says baby is entirely changed, sleeps all night, is cheerful and satisfied, stools normal, weight 14 lbs. 8 oz. On August 31st she weighed 18 lbs. 5½ oz., she was entirely well, skin clear and was trying to walk.

Case II.—Girl, C., seen first February 25th, born November, 1910; nursed for three months, then Horlick's malted milk, then milk with lime water; not thriving, stools contain fatty soaps and are very irregular; has bronchitic cough, crying a great deal. On March 2d she looked much better, still some cough; takes food greedily. When seen last about the first of June baby was a picture of health though it had since gone through measles.

Case III.—Girl, H., seen first February 3d, born November, 1909; up to eight months breast and condensed milk, since cow's milk, etc; last five days tetany, also clear signs of rickets; after one week of cereals only the tetany has disappeared; now placed on diet including cow's milk with citrate of soda; seen again two months later, greatly improved, moved out of town.

Case IV.—Boy, J., seen first April 8th, born August 10th; has been fed on cow's milk with grape-nut gruel, malted milk, shredded wheat gruel, etc.; was nursed only a few weeks. When first seen he had convulsion, also rickets and tetany. On April 11th all signs of tetany had disappeared and he had no more eclamptic seizures; this child is now thriving and his rickets are disappearing.

Case V.—Boy, M., seen first February 27th, born June 10th; nursed one month, Horlick's since; is weakly and has rash on body, eczematous; is thriving since though he has gone through measles.

Case VI.—Girl, S., seen first December 6, 1910, born September 29, 1910; is at breast but crying a great deal; stools slimy, contain soaps, not thriving. Seen again on February 2d, has not gained any, stools very loose; placed on allaitment mixed and sod. citrate in milk mixture. Contracted whooping cough shortly after this, also had to be weaned. As the people live at some distance she could not be observed very closely, but when last seen on August 30th she was well and strong; she is still taking her sod. citr.

Case VII.—Boy, S., seen first March 4th, born March 10, 1910; nursed six months, then condensed milk four and one-half months, cow's milk one week, malted milk two or three weeks, lately bread and milk; weight at nine months 23 lbs., now 22 lbs. with clothes; stools loose and foul; had been able to stand up but cannot do so any longer; clear signs of rickets; since last night bronchial cough. By March 22d cough had disappeared, stools were normal, had two teeth, and was able to stand up again; well since.

These, gentlemen, are a few of my cases which I have treated with the addition of sodium citrate to their cow's milk mixture; this was naturally

not the only treatment prescribed; great importance was placed, as I always do in these cases, upon giving the food at regular intervals and in right amounts, also in finding the right composition of the food appropriate to the age and condition of the little patient; in cases combined with rickets medicine was given for this.

I do not intend to give an opinion on the relatively small number of cases treated and followed up so far, but compared with my results before the use of sodium citrate I certainly think that its use is not accompanied by any dangers and it has seemed to me to be advantageous, and I got the impression that the little patients have recovered quicker and more completely than they would have done without its use.

As to the theory of Stoeltzner's, it certainly looks attractive to me and worthy of further investigation.

For the oxypathy in older children, or as you are accustomed to call it, lithemia, I have found this condition of astonishing frequency since I began to look for it, and I have been able to attribute a large number of cases of chronic or recurrent bronchial affections to this origin and to cure these not by the old-fashioned medication but by a well-regulated diet of fruits and vegetables and by the addition of sodium citrate; this treatment I also make use of in eczema of childhood and adenopathy.

To recapitulate:

1. According to Stoeltzner the condition called by the French arthritism, by the English and Americans lithemia, by the Germans exudative diathesis, and by him oxypathy, is due to an alimentary or constitutional insufficiency of the body to eliminate from the system those acids which cannot be oxydized, without at the same time lowering its supply of fixed alkalies below the point at which the body can retain perfect health.

2. Cow's milk contains too much phosphate of lime for the infant.

3. Many infants do not thrive on cow's milk on account of the alimentary poisoning with phosphoric acid.

4. We are able to improve the food for these infants by the addition to it of a fixed alkali, sodium citrate, to bind the non-oxydizable phosphoric acid.

ACUTE UNILATERAL HAEMATOGENOUS INFECTION OF THE KIDNEY.

By M. HARTWIG, M.D.,
BUFFALO, N. Y.

THE August number of this journal contained an article by A. T. Bristow under the same heading. Rare as these cases are I have one now under treatment. Not entering into the theory of said affection which is well expounded in the above article, I refer to the diagnosis and prognosis only.

Whether it is always possible to differentiate between pyelonephritis and pyelitis is doubtful to my mind. The fever and the pain in the costovertebral angle on pressure is probably the most reliable symptom of pyelonephritis as against simple pyelitis, but pain on bimanual pressure is inconclusive as such will exist in pure pyelitis.

If the infection of the kidney has extended through its capsule the paranephric part becomes involved and we have the paranephric abscess. The urinary symptoms remain the same as given in Bristow's article.

My case began two months after an abortion which evidently was free from infection and had, ergo, nothing to do with the pyelonephritis. A young woman who was otherwise always well starts with a chill, with a temperature of 104 and a pain in McBurney's point. She vomits once. Her doctor makes the diagnosis of appendicitis. On entering the hospital the urine is examined a few minutes before operation as I find the costo-angular pain. Uterus and ovaries appear normal. Contracture of the right rectus is present but not very striking. The urine shows pus, blood and bacilli. I assume the possibility of appendicitis and pyelonephritis together and resolve to attack the appendix first—but, appendix, right ovary and gall bladder are in perfect order. This was the first case where I expected an appendical affection and found none. After closure of the wound I resolved after all not to incise for the kidney and to await developments. Next day the temperature was normal and remained so while I was giving Urotropin and ol. Terebinthinæ. The urine is today, after a primary healing of the criss-cross, still not normal and the costo-vertebral angle still sensitive.

Whether this case will finally require drainage or even extirpation of the kidney or not, it shows that Bristow makes a too pessimistic prognosis in thinking nephrectomy proper in every case.

Sept. 13, 1911.—The likelihood is perfect restoration as the woman is attending her household duties and the urine almost normal.

NOTE.—Bristow did not intend to claim that every case required nephrectomy but that every case requiring operation was best treated by nephrectomy rather than nephrotomy.—ED.

The Medical Society of the State of New York

DISTRICT BRANCHES.

FIRST DISTRICT BRANCH.

ANNUAL MEETING AT YONKERS, THURSDAY, OCTOBER 12, 1911.

BUSINESS SESSION.

The meeting was called to order at 11 A. M. The President, W. S. Gleason, in the chair.

Minutes of last meeting and of Executive Committee were read and approved.

The President appointed Drs. S. O. Myers, J. E. Sadlier and H. L. Winter, a committee on Nominations.

The Secretary read a letter from the State Secretary suggesting holding the meeting of the First District Branch on the second Thursday in October each year, to avoid conflict with the meetings of the other

branches. On motion the letter was referred to the Executive Committee.

The State Society By-Laws as adopted two years ago require the Presidents of the District Branches and all other officers of the State Society to assume office at the close of the annual meeting of the State organization. The District Branch By-Laws being in conflict with the State By-Laws, the following amendment was offered and under the By-Laws laid over to be voted on next year.

Amend Section 3, Chapter II, by striking out the words "on January 1st of" and substituting the words, "at the close of the annual meeting of the Medical Society of the State of New York."

The following preamble and resolutions being received from the State Charities Aid Association relative to "No Uncared-for Tuberculosis in New York State in 1915" was adopted unanimously.

WHEREAS, One-third of those who die between the ages of fifteen and fifty, at a time when they have assumed their greatest responsibility to society by becoming producers and supporters of families, die of tuberculosis, a disease which is declared by scientists to be curable, preventable and communicable, for the control of which hospital, dispensary and public nursing provision is absolutely necessary, and

WHEREAS, It is a well-recognized duty of government to protect the people from communicable diseases and seventeen counties in this State have either established or have voted to establish county hospitals, eight cities have established hospitals for the treatment of this disease, six cities have out-door camps, twenty-five cities have free dispensaries, thirty-four cities have visiting nurses, nine cities have special relief agencies, and

WHEREAS, The New York State Grange, the Catholic Mutual Benefit Association, the Ladies' Catholic Benevolent Association, the Knights of Pythias, the State Workingmen's Federation, the State Railway Clerks' Association and the County Medical Societies of thirty-two counties have given unqualified endorsement to the movement for the establishment of county hospitals for tuberculosis; therefore be it

Resolved, That the First District Branch of the Medical Society of the State of New York endorse the program for "No Uncared-for Tuberculosis in New York State in 1915," now being prosecuted in this commonwealth by the State Charities Aid Association in co-operation with the State Department of Health, and that all county and local medical societies in the First District be requested to take similar action and to call upon the Board of Supervisors in their respective counties to furnish hospital provision for all classes of cases; and petition the Board of Aldermen in their respective cities to privide the facilities for free clinical diagnosis and for the instruction by nurses of the tubercular sick in their homes; and be it further

Resolved, That the Secretary of the First District Branch be instructed to send copies of these resolutions to all county and local medical societies affiliated in this district.

The President desired to thank the Presidents of the County Medical Societies for the efficient help he received from them in the planning and the making up of the program.

The Committee on Nominations reported D. B. Hardenbergh, Middleton, President; John C. Otis, Poughkeepsie, Vice-President; C. E. Denison, New York, Secretary; George S. Mooney, Yonkers, Treasurer.

A letter received by the President from Abraham Jacobi, President-elect of the American Medical Association, was read expressing regret at his inability to be present and praising the Branch for the efficient work and high class of literary papers presented and predicting a brilliant future under the officers. On motion the Secretary was instructed to thank Dr. Jacobi and to wish him success in his work as President of the American Medical Association.

SCIENTIFIC SESSION.

President's Address, W. S. Gleason, M.D., Newburgh.

"Double Dislocation of the Hip," A. E. Chace, M.D., Tarrytown.

"Etiology of Arterial Sclerosis," H. L. Winter, M.D., Cornwall. Discussion opened by W. Travis Gibb, M.D., New York.

After adjournment for luncheon the following papers were read:

"Present Status of Our Knowledge of Poliomyelitis," Simon Flexner, New York. Discussion opened by W. R. Townsend, M.D., New York.

"Lactic Cultures, Some Clinical Observations," E. T. Harrington, M.D., Yonkers. Discussion opened by Henry Moffat, M.D., Yonkers.

"The Cæsarean Operation," J. W. Poucher, M.D., Poughkeepsie. Discussion opened by J. E. Sadlier, M.D., Poughkeepsie.

"Danger Signals in Gynecology," W. Travis Gibb, M.D., New York.

"Principles in the Treatment of Surface Wounds," R. C. Thompson, M.D., Newburgh. Discussion opened by Parker Syms, M.D., New York.

"Some Popular Misconceptions Regarding Ophthalmia Neonatorum," E. M. Alger, M.D., New York.

"A Talk on the Care and Training of the Feeble Minded at Letchworth Village," C. S. Little, M.D., Thiells.

This was the largest meeting ever held by the First District Branch. At the morning session the attendance was 75, and at the afternoon, 150. But one paper not read. The meeting adjourned at 5.30 P. M.

SIXTH DISTRICT BRANCH.

ANNUAL MEETING AT ELMIRA, TUESDAY, OCTOBER 17, 1911.

BUSINESS SESSION.

The program was carried out in full as printed. All the readers being present with one exception. The papers were all high class and brought out very interesting discussions. The attendance was greater than at any previous meeting, there being eighty-six registered.

The meeting of delegates followed the morning session.

The District Branch By-Laws being in conflict with the State By-Laws, the following amendment was offered and under the By-Laws, laid over to be voted on next year:

"Amend Section 3, Chapter II, by striking out the words 'on January 1st of' and submitting the words, 'at the close of the annual meeting of the Medical Society of the State of New York.'"

The following officers were elected for the ensuing year:

President, Dr. F. M. Miller, Binghamton; Vice-President, Dr. H. W. Fudge, Elmira; Secretary and Treasurer, Dr. L. Coville, Ithaca.

The next annual meeting will be held in Binghamton, the third Tuesday in October, 1912.

The following delegates responded to roll call: Broome County, Dr. McLean; Chemung County, Dr. E. T. Bush; Schuyler County, J. M. Quirk; Tioga County, Dr. Stiles; Cortland County, B. R. Parsons.

Scientific Program.

President's Address "The Relation of Special to General Medicine," Sherman Voorhees, M.D., Elmira.

"Physiology in the Schools," Luzerne Coville, M.D., Ithaca. Discussion opened by G. S. Carpenter, M.D., Waverly.

"Vaccination," D. S. Burr, M.D., Binghamton. Discussion opened by G. V. R. Merrill, M.D., Elmira.

"The Dangers of Salvarsan," N. W. Wilson, M.D., Buffalo. Discussion opened by W. A. Moore, M.D., Binghamton.

"Report of a Case of Purpura Hemorrhagica," H. DeWolf, M.D., and John M. Swan, M.D., Watkins. Discussion opened by F. DeW. Reese, M.D., Cortland.

"Perineorrhaphy," W. Wayne Babcock, M.D., Philadelphia, Pa. Discussion opened by A. H. Baker, M.D., Elmira.

"How Can the State Department of Health and the Medical Profession best Conserve the Health of the People?" Wm. A. Howe, M.D., Deputy Commissioner of Health, Albany. Discussion opened by R. P. Bush, M.D., Horseheads.

"Responsibilities of the Country Practitioner in Relation to Public Health," Elliot T. Bush, M.D., Horseheads. Discussion opened by F. B. Parke, M.D., Health Officer, Elmira.

"The Present Status of Cancer," R. G. Loop, M.D., Elmira. Discussion opened by A. W. Booth, M.D., Elmira.

"The Ocular Hyperæmias," H. E. Smith, M.D., Norwich. Discussion opened by Jack Killen, M.D., Binghamton.

"Some Thoughts Regarding the Work of the Mayo Brothers," H. A. Gates, M.D., Delhi. Discussion opened by Charles H. Haase, M.D., Elmira.

A number of the physicians brought their wives and after the luncheon, which was given by the Chemung County Medical Society, enjoyed an automobile ride around the city and a visit to the State Reformatory, where a special dress parade was given for their benefit.

COUNTY SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF ERIE.

Regular Quarterly Meeting, Monday Evening, October 16, 1911.

The meeting was held in the Buffalo Library Building, with President McClure presiding.

Minutes of the previous meeting and the Council meetings were approved.

Nine new members were elected.

Dr. George L. Brown, Chairman of the Board of Censors, submitted a detailed report of the work of the Board in which, among other things, he gave an account of the various prosecutions since the last meeting, the important ones being as follows:

For the illegal practice of medicine, a fine of twenty-five dollars was imposed and collected from each of the following:

Fannie Cirese, Joseph Stein, Agnes Wrzesinska, Anna Miller. The first named has left the city.

Drs. A. E. Collins, Matthew Willoughby, Frank B. Voght and Charles Monroe Manges were reported as being under bail for alleged criminal practices.

Several other flagrant violators of the medical law were driven out of town, the most important of which was a Mr. Meseroff, proprietor of the Porter Medical Company, which company has been doing business in Buffalo and many other cities for a number of years. Mr. Meseroff gave a bond for his appearance, but his case has not yet come to trial. The Buffalo offices of the company have, however, been closed since last spring.

Dr. T. H. McKee, chairman of a special committee appointed for the purpose of obtaining the records of public officials on sanitary and health matters, made a report in which he stated that the large number of physicians of Buffalo and Erie County ought to wield a powerful influence for good in this behalf, if their influence was exerted in a systematic manner. Furthermore, if the public officials knew that their actions were being watched by the medical fraternity, the results, in many instances, would be different.

On his motion, an appropriation of one hundred dollars was set aside to be used for this purpose during the coming year.

On motion of Dr. McKee, the following resolution was adopted:

"Whereas, A concerted attempt is being made to undermine the authority and efficiency of the Health Department and to subject the community to the risk of smallpox epidemics by abrogating that section of the ordinances which makes vaccination compulsory; be it

"*Resolved,* That the members of the Medical Society of the County of Erie hereby register a vigorous protest against any such change in the law; and further be it

"*Resolved,* That we heartily endorse the attitude of the Health Commissioner, and especially commend him for the stand he has taken in this matter, as well as in relation to pure food regulations, and that a copy of these resolutions be forwarded to the Aldermen, the Councilmen and the Mayor."

Also, on motion of Dr. McKee, the Delegates to the Medical Society of the State of New York were instructed to urge, at the next meeting of said Society, the desirability of proper teaching on the subjects of smallpox and vaccination, in the various medical colleges, it having been demonstrated that many graduates are absolutely uninformed on this subject.

The scientific part of the meeting consisted of two addresses—one a stereopticon illustrating the subject of smallpox and vaccination, given by Dr. Frederick C. Curtis, of Albany, Specialist on Dermatology of the New York State Department of Health, and the other by Deputy State Commissioner of Health Dr. William A. Howe, who spoke upon the subject of preventable diseases.

Discussion was led by Health Commissioner Francis E. Fronczak, City Bacteriologist William G. Bissell, Superintendent of the Ernest Wende Hospital, Walter S. Goodale, Physician Municipal Hospital Charles F. Durand, Edward Clark, Burt J. Maycock, Henry R. Hopkins and Conrad Diehl, ex-Mayor of the City of Buffalo.

The Society then adjourned its meeting until the third Monday in November for the transaction of unfinished business.

MEDICAL SOCIETY OF THE COUNTY OF WYOMING.

Annual Meeting, at Warsaw, October 10, 1911.

The following officers were elected for the ensuing year: President, William N. Martin, Cowlesville; Vice-President, George H. Peddle, Perry; Secretary-Treasurer, L. H. Humphrey, Silver Springs. Two new members were elected.

Scientific Session.

"Clinic at Warsaw Hospital." "Appendectomy," W. R. Thomson, M.D., Warsaw.

Symposium on La Grippe.

"Etiology and Diagnosis," G. S. Skiff, M.D., Gainesville.

"Nose and Throat Symptoms," L. M. Andrews, M.D., Warsaw.

"Nervous Symptoms," Mary T. Greene, M.D., Castile.

"Respiratory and Circulatory Complications," W. N. Martin, M.D., Cowlesville.

"Treatment," W. J. French, M.D., Pike.

Discussion opened by G. H. Peddle, M.D., Perry.

"Small Pox," L. E. Stage, M.D., Bliss.

MEDICAL SOCIETY OF THE COUNTY OF CHEMUNG.

Quarterly Meeting held at Elmira, September 19, 1911.

The President, Dr. Parke, was in the chair and a large attendance was present.

The plans for a public mass meeting to be addressed by a representative of the State Health Department under the Society's auspices were discussed and December 19, 1911, fixed as the date. The subject of the lecture is to be "Sewerage Disposal."

Nominations of officers for 1912 were made as follows: For President, C. Haase; Vice-President, William Brady; Secretary, C. F. Abbott; Treasurer, G. V. R. Merrill; Censors: H. W. Fudge, R. G. Loop and S. Voorhees. Chairman Public Health Committee, A. H. Baker; Chairman Committee on Legislation, Assemblyman R. P. Bush; Delegate to State Society, R.

G. Loop; Alternate, E. T. Bush; Delegate to Sixth District Society, H. W. Fudge; Alternate C. Haase.

The scientific program opened with a well-prepared and unusually interesting paper by Dr. William T. Shanahan, medical superintendent of Craig Colony: "Diagnosis and Treatment of Some Special Conditions seen in Epileptics." Dr. Shanahan brought out several points instructive and novel to the general practitioner. The paper was discussed by Drs. Fisher, Jennings and Baker of Elmira.

Dr. R. P. Bush, the father of Medical Legislation in New York State and the grand old man of the Chemung County profession, read a paper on "The Profession and the Legislature," which should be digested by every anti-vivisectionist and anti-vaccinationist in the State. Discussed by Drs. Bowman, Haase, Burch, Loop, Hanor, Brady, Parke.

Dr. C. G. R. Jennings gave "Some Observations on Intestinal Infusoria," describing a unique case of apparent infection with Balantidium Coli.

Discussed by Dr. Stuart.

MEDICAL SOCIETY OF THE COUNTY OF WASHINGTON.

SEMI-ANNUAL MEETING, AT GRANVILLE, OCTOBER 3, 1911.
MEETING CALLED AT 11.30 A. M.

The following members were present: D. C. McKenzie, J. Millington, R. C. Davies, W. A. Tenney, O. J. Fryer, W. L. Munson, G. A. Bromley, W. B. Melick and S. J. Banker.

Visitors: J. A. Sampson, M.D., Albany; T. A. Hull, M.D., Troy; C. S. Prest, M.D., Waterford, and Mr. G. J. Nelbach of the State Charities Aid Association.

Minutes were read and approved.

REPORT OF COMITIA MINORA.

Meeting of comitia minora held at the office of the Secretary, August 15, 1911. Present, G. D. Wilde, W. B. Melick, C. W. Sumner, R. C. Paris, S. J. Banker.

The following were chosen to take part in the program for the meeting at Granville, October 3d:

F. W. McSorley, S. A. Reed, A. M. Young, D. C. McKenzie, W. A. Tenney, G. M. Casey, W. C. Cuthbert and M. E. Sargent. M. B. Melick presented a resolution regarding the publishing of the directory to be presented at the October meeting.

Dr. Melick was appointed to draft a resolution of recommendation to the board of supervisors regarding the building of a tuberculosis hospital.

The Secretary was tendered a vote of thanks for having the minute book bound. The following motion presented by the comitia minora was adopted:

WHEREAS, During the past few years considerable difference of opinion, as to the advisability of publishing the Tri-State Medical Directory has existed among the profession, and

WHEREAS, The expense of publishing the same has been a great burden to the State Society, and

WHEREAS, The American Medical Association Directory in section 3 contains the same information and can be purchased for $2.00,

Resolved, That the Medical Society of the County of Washington approve of any action taken toward discontinuing the publication of the Tri-State Medical Directory yearly and favors the publication of the same not oftener than once in three or five years, and that its delegate be instructed to work for that end.

Mr. Nelbach, of the State Charities Aid Association, presented in a very clear manner the need of a tuberculosis hospital for Washington County, and presented a resolution recommending the Board of Supervisors to build one, which was adopted instead of the one presented by the Comitia Minora.

SCIENTIFIC SESSION.

"Uterine Hemorrhage; Its Causes and Treatment, Illustrated by Mechanical Charts," J. A. Sampson, M.D., Albany.

"Exophthalmic Goitre; Its Symptoms and Treatment," W. A. Tenney, M.D., Granville.

Dr. T. A. Hull, of Troy, exhibited some very fine X-ray plates.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

REGULAR MEETING, AT SCHENECTADY, OCTOBER 10, 1911.
SCIENTIFIC SESSION.

"The Delivery of the Placenta," L. Faust, M.D., Schenectady.

"Pelvic Surgery in Relation to Periodic Headache and Neuralgia," H. P. Groesbeck, M.D., Schenectady.

MEDICAL SOCIETY OF THE COUNTY OF ALLEGANY.

ANNUAL MEETING HELD AT BELMONT, OCTOBER 12, 1911.

The annual address of the retiring president, Dr. Edith Stewart of Hume, who is perhaps the only lady president of any county society in the State, was well received.

Dr. Allen A. Jones, of Buffalo, reported in detail two cases of acute lymphatic leukæmia, one only living about one week and cases of Grave's disease and esophageal and duodenal ulcer. Discussion opened by the doctors present.

Dr. L. C. Lewis, of Belmont, read a paper on Huntington's chorea and reported a case.

The following officers were elected for the next year: Dr. F. E. Comstock, Wellsville, President; M. E. House, Cuba, Vice-President; C. R. Bowen, Almond, Secretary and Treasurer; E. W. Ayars, Alfred, Delegate to the State Society, who was instructed by resolution to work to change the prosecution of illegal practice of medicine from the county society to the state society.

BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

CHEMICAL AND MICROSCOPICAL DIAGNOSIS, by FRANCIS CARTER WOOD, M.D., Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University, New York; Director of the Laboratories and Attending Physician to St. Luke's Hospital, New York. Third edition, with one hundred and ninety-four illustrations in the text and nine colored plates. New York and London. D. Appleton & Company, 1911. Price, $5.00 in cloth; $6.00 in half leather.

THE DISEASES OF INFANCY AND CHILDHOOD for the use of students and practitioners of Medicine. By L. EMMETT HOLT, M.D., Sc.D., LL.D., Professor of Diseases of Children in the College of Physicians and Surgeons (Columbia University), New York; Attending physician to the Babies' and Foundling Hospitals, New York; Corresponding member of the Gesellschaft für Innere Medizin und Kinderheilkunde, Vienna, and Honorary member of the Gesellschaft für Kinderheilkunde, Germany. Assisted by JOHN HOWLAND, A.B., M.D., Professor of Diseases of Children in Washington University, St. Louis; Late associate in diseases of children in the College of Physicians and Surgeons, New York. Sixth edition, with two hundred and forty illustrations including eight coloured plates. New York and London. D. Appleton & Company. 1911. Price, $6.00 in cloth; $7.00 in half leather.

THE PARASITIC AMOEBA OF MAN, by CHARLES F. CRAIG, M.D., Captain, Medical Corps, United States Army. From the Bacteriological Laboratory of the Army Medical School, Washington, D. C., and the Rocke-

feller Institute for Medical Research, New York City. Published with the authority of the Surgeon General of the United States Army. Philadelphia and London. J. B. Lippincott Company. 1911. Price, $2.50.

Lippincott's New Medical Dictionary. A vocabulary of the terms used in Medicine, Dentistry, Veterinary Medicine, and the Allied Sciences. With their pronunciation, etymology and signification, including much collateral information of a descriptive and encyclopedic character. By Henry W. Cattell, A.M. (Laf.), M.D., (U. of P.) Freely illustrated with figures in the text. Second edition. Philadelphia and London. J. B. Lippincott Company. Price, $5.00.

Food Values. Practical tables for use in private practice and public institutions. By Edwin A. Locke, A.M., M.D., instructor in Medicine, Harvard Medical School. New York and London. D. Appleton & Company. 1911. Price, $1.25.

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles on treatment, medicine, surgery, neurology, pædiatrics, obstetrics, gynæcology, orthopædics, pathology, dermatology, ophthalmology, otology, rhinology, laryngology, hygiene, and other topics of interest to students and practitioners. By leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A. With the collaboration of Wm. Osler, M.D., Oxford; John H. Musser, M.D., Philadelphia; A. McPhedran, M.D., Toronto; Frank Billings, M.D., Chicago; Chas. H. Mayo, M.D., Rochester; Thos. H. Rotch, M.D., Boston; John G. Clark, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh; John Harold, M.D., London; Richard Kretz, M.D., Vienna. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels, and Carlsbad. Volume III. Twenty-first series, 1911. Philadelphia and London. J. B. Lippincott Company. 1911. Price, $2.00.

Applied Anatomy and Oral Surgery, for dental students, by Robert H. Ivy, M.D., D.D.S., Assistant Oral Surgeon at the Philadelphia General Hospital; Assistant Surgeon, Out-Patient Department, University Hospital, Philadelphia. Illustrated. Philadelphia and London. W. B. Saunders Company. 1911. Price, cloth, $1.50 net.

BOOK REVIEWS.

A Manual of Gynecology, by Thomas Watts Eden, M.D., C.M.E. (Edin.), F.R.C.P., (Lond.), F.R.C.S. (Edin.), Obstetric Physician and Lecturer in Midwifery and Gynecology, Charing Cross Hospital. Surgeon to the Chelsea Hospital for Women, etc., 620 pages with 272 illustrations in the text. Published by Blakiston Son & Co., Philadelphia. Printed in London.

Mr. Eden, in this recent contribution to the many gynecological text books, which have been given to the profession in the past year, has attempted to provide for "Students and Practitioners, a complete but not exhaustive account of the Diseases of Women, in their pathological and clinical aspects." He has succeeded in giving us some 620 pages of interesting data, which for the most part is well arranged and essentially practical. While such a book may supply a distinct need in England, there are several American works of greater value as a diagnostic aid to the practitioner.

Much of the work has been compiled from good English and German authorities, whose teachings are not wholly in accord with recent American conclusions. The chapters on the Anatomy and Physiology of the pelvic organs, are clear but not exhaustive, and are well illustrated; however, his conception of the pelvic floor, which he distinguishes from the pelvic diaphragm, will not meet with acceptation in America. The sections devoted to the consideration of the significance of gynecological symptoms in diagnosis, are particularly well arranged, and will be of inestimable value to the busy man, who has to make his diagnosis without the aid of the specialist.

His schematic table of the causes of amenorrhœa will be a helpful jog to the memory, while the arrangement of topics which he has made at the beginning of each part is excellent, showing as it does at a glance, the morbid conditions to which each organ is liable.

His chapters on uterine cancer, the morbid conditions of the ovaries and pelvic inflammations, deserves special comment. It is pleasing to find that at last an author assumes to describe pelvic peritonitis and cellulitis, as distinct pathological entities, and not refer to them as merely a sequellæ of tubal or ovarian inflammation.

In the consideration of the treatment of ectopic, we are gratified to note that the swing of the pendulum is toward allowing the patient to recover from her shock before operating; however, we cannot agree with the intravenous use of saline infusion before the hemorrhage has been checked by ligature. From our own experience, we have found that continuous enteroclysis supplies an ample amount of saline to make up for the blood losses, without risking the danger of direct infusion.

We can see no reason for placing the morbid conditions of the vulva and vagina, after diseases of the uterus and ovaries, or why malformations of the uterus and vagina should have a position so out of sequence as that which has been given them.

Many of the suggestions on asepsis and operative technique are distinctly English, and will hardly be adopted by the American surgeon, who abhors carbolic acid, especially in skin preparation. Iodine is mentioned with brief comment, as an alternative for carbolic. Again, chloroform anæsthesia will hardly have the endorsement of American surgeons, neither will spinal anæsthesia, with its dangers, its insufficient narcosis, its mental shock, supplant gas-oxygen or ether, in their respective spheres.

I regret to note that the English habit of using silk for ligature material is mentioned and endorsed by the writer. Surgical experience has shown its disadvantages to be so many that one can hardly accept its suggestion in 20th Century text.

In his chapter on perineorrhaphy we note that he endorsed the Tait operation, which is not based on the accepted pathology of perineal injuries, further, that in his discription of anterior colporrhaphy, he shortens the vagina, which must carry the cervix forward, by suturing the diamond-shaped excision transversely. Such an operation can hardly be expected to do much toward cure of cystocele.

The chapter on the after treatment, while not exhaustive, is sound in principle, and cannot fail to be of much aid to the occasional surgeon. As a whole the book is commendable, and the typography is excellent. J. O. P.

DEATHS.

Charles W. M. Brown, M.D., Elmira, died October 29, 1911.

Benjamin N. Baker, M.D., Rhinebeck, died October 18, 1911.

Hiram G. DuBois, M.D., Camden, died September 17, 1911.

Harry L. Finley, M.D., Brooklyn, died October 14, 1911.

George C. Freeborn, M.D., New York City, died October 30, 1911.

Christopher C. Reid, M.D., Rome, died September 29, 1911.

John W. Warner, M.D., Saratoga Springs, died October 23, 1911.

NEW YORK STATE JOURNAL OF MEDICINE

A Journal Devoted to the Interests of the Medical Society of the State of New York

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Vol. XI. DECEMBER, 1911 No. 12

EDITORIAL DEPARTMENT

THE NURSE ANESTHETIST.

FOLLOWING the practice of the Rochester clinic, it has been proposed in some quarters to use a nurse for the administration of an anesthetic. In fact, at one of the metropolitan hospitals, this has already been done. There is no doubt that a nurse can be taught to give an anesthetic skillfully. The Mayos have shown that; but right here we ought to ask ourselves this question, whether in fact the administration of ether, chloroform or other agent for the purpose of producing unconsciousness is not the practice of medicine.

It can hardly be called nursing, and if a nurse, however skillful, made public announcement by card that she was prepared to administer anesthetics for physicians she would most certainly be violating the law of the State of New York, which thus defines the practice of medicine:

"A person practices medicine within the meaning of this act who holds himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition, and who shall either offer or undertake by any means or method to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition."

It is said in defense of the practice that the nurse is acting under the direction of the physician, but who regulates the dose of the drug, observes the condition of the pupils, the respiration and the heart action? When giving drugs under ordinary circumstances, the nurse administers the dose ordered by the physician and usually demands it in writing, *always* if the dose is unusual.

It is the business of the skillful anesthetist himself to regulate the dose, which varies from time to time, to adapt the agent selected to the type of individual as well as the nature of the operation. If the operator is to oversee the anesthesia so that the nurse becomes in fact nothing more than a second pair of hands, he cannot give his undivided attention to his patient as he ought to do.

But a second pair of hands is what the skilled anesthetist most emphatically is not. No surgeon would employ an anesthetist a second time whom he had to coach and watch. The whole theory of the special anesthetist is that he possesses special skill which relieves the surgeon of the very watchfulness which the apologists for the nurse anesthetist say renders her employment legal.

Such a claim is, of course, absurd. If it is legal and proper in the hospital it is equally legal for the nurse to send out announcement cards as follows: "Miss C., R. N. is prepared to administer anesthetics for physicians. Fee, ten dollars and upwards." Will any one defend such a practice? If a nurse can learn to give an anesthetic skillfully, although illegally, a physician can also learn to give it skillfully and legally. If we requested or advised our private patients to employ as anesthetist a physician who made anesthesia his specialty, our private patients would be better off. We should have less nausea, fewer cases of pneumonia, and we should be helping our brethren to earn their bread. Instead of that some of us contemplate depriving the physician anesthetist of his source of income and throwing what is clearly the function of the physician

to women who have no sort of right to the privilege. A circumstance which happened at one of the clinics in Philadelphia shows clearly that operators realize that when they use a nurse as anesthetist they are on doubtful ground. At this clinic a nurse was used as anesthetist. Twice out of five times, on her reporting the patient in bad condition, she was replaced by a member of the house staff. The other three anesthesias were without incident. This does not prove that the nurse did not give the anesthetic properly, but is certainly an indication of apprehension on the part of the operator and a desire to avoid the responsibility for a death on the table with a lay operator in charge of the anesthetic. We append a letter of Mr. Lewis, the counsel of the Society, which contains his opinion as to the legality of the practice. Emphatically it ought to cease and be heard of no more.

Medical Society of the State of New York.
James Taylor Lewis, Counsel.
40 Exchange Place, New York.

September 27, 1911.

Dr. A. T. Bristow, Editor.

My Dear Doctor:

Your letter of the 26th reached me this morning on my return to town.

The question of having trained nurses give anesthetics in hospitals is a matter of very serious moment. The idiosyncrasy against some varieties of anesthetics and the danger of giving other anæsthetics where organic diseases are present, would, it seems to me, require that in all instances an anæsthetic be given only by a duly licensed physician.

It is too many times true that under the care of a duly licensed physician accidents occur and death ensues, this too where the ordinary examination has been made to discover whether or not there is any physical condition which would make an anæsthetic unsafe.

Of course I assume that a nurse during her training is given special instruction in the administration of various kinds of general anæsthetics, yet she cannot be sufficiently informed to do so, and I believe that the law does not authorize her to take part in so important, indeed in so vital a procedure incident to surgical work.

I believe that nurses doing that are within the pale of law, and I believe that the practice should stop if it exists.

Very respectfully yours,

James Taylor Lewis.

A HEATHEN SECT.

A LITTLE child of five years old died of diphtheria the other day, after one "present" treatment and several "absent" treatments by a "Christian" Science mummer. The deluded mother stated that the child had been "in error". By error she explained she meant a "slight sin." In other words this strange sect teaches that the Judge of all the earth will slay a five-year-old child for a slight sin. Has heathendom ever evolved a more savage doctrine? It is akin to the horrible belief once taught that hell is paved with the skulls of unbaptized infants.

And these rivals of the Witch of Endor flourish exceedingly, fatten on the blood of their innocent victims and go unwhipped of the law because they call such a doctrine religion, and Justice keeps her sword in her sheath and smiles benignantly, if not inanely, on the lawless practices of this sect, because of the cloak of religion with which its votaries sanctimoniously cover their nakedness.

THE HOSPITAL IN ITS RELATION TO THE PUBLIC AND PHYSICIAN.

THIS is the day of great combinations in all lines of commercial activity, and it cannot be denied that suitable combination and active coöperation are bound to spell the magic word—progress. In this way, business corporations of tremendous power have been and are being built up in the United States to the seeming injury of the individual producer, but undeniably to the ultimate benefit of the community at large. But the private hospital is a close corporation suffered to exist through public generosity and good will, to which the individual physician is expected to contribute much of his time, most of his energy and all of his skill at no wages and small thanks. Such a condition of affairs is subversive of the best interests of science, of the individual and of the community.

The dispensary physician toiling along day after day is under the sway and spell of hospital tyranny. If he does no clinic work at all and he is still a young man, he has little standing in the community or among his colleagues. If he does attend clinics he is obliged daily to treat for nothing cases that can and ought to pay him. If he does an operation for tonsils and adenoids, and the patient remains in hospital overnight, as he ought to do, the hospital collects five or ten dollars, the physician nothing. In spite of the affected scorn at small fees, I wonder how many readers of this article would turn down a ten-dollar bill for doing such an operation on a patient who could not afford to pay more. In the course of events the physician may chance to displease his superior in rank, and after years of faithful service, the primary object of which was to secure an appointment as "adjunct" or "attending", he is informed that his resignation is in order.

Maybe he has been foolish enough to neglect his private practice for this phantom which now disappears forever from his grasp. Of course it would be "unethical" to object to such treason on the part of his chief. Besides, he might lose his membership in some medical society or other, so he bows his head and bears the yoke. How many really honest, sincere and open-minded medical men believe that "ethics" exist to any great degree, except as a treasure in the memory of some silvered head fast bending to the fate of all mankind. Self-preservation is the first law of nature, and just so long as men remain what they are the necessities of existence will be provided for at whatever cost; and if not openly, then secretly, which is much the worse way for the maintenance of self-respect. It is, however, a great and good thing that there are some stalwart trees in the forest, which by their vast and deep roots can resist the onslaught of commercialism; but it is also incumbent upon these men to come in some way to the aid of those who are not so fortunate in character and circumstance.

A hospital should belong to the whole community, physicians and laity alike, and should serve them each and several for the great and righteous purposes of healing the ill, advancing science and maintaining its votaries above the level of pauperism. Such ends can seemingly be served only through municipal or governmental ownership.

Every great city should be a medical centre where both undergraduate and post-graduate study can flourish and grow up under the guidance of great minds unharassed by the immediate necessity of making a business out of a God-given profession.

Such teaching can only be carried on at great expense, therefore it should be centralized, in so far as possible, under one roof with full coöperation and interdependence of all departments, and if not in affiliation with a great university it should be conducted after the same fashion under the supervision of a broad-minded, thoroughly trained, constructive and progressive medical supervisor, having at his elbow the wise counsel of departmental heads. It should go without saying that such supervisor should be a physician of very superior intellectual, executive and administrative power. A lay superintendent could never be taught to engineer such a gigantic undertaking and preserve harmony in all of its parts. Such an institution as I have in mind should have at its head a large-minded man who can deal with large problems in a large and beneficent manner.

It is constantly dinned into our ears that there are too many physicians; it can even more truthfully be said that there are altogether too many hospitals. Multiplication of such institutions multiplies the cost of maintenance a thousand-fold and reduces efficiency to its lowest terms.

To begin with, the professors and teachers in such a centralized hospital should be brought from Europe, or should be the direct product of some years of European study and training. As yet we have very few trained investigators who can or who will train others for the tasks which shall follow. Most of us cannot afford to dabble in science, no matter how strong our desire. We must be eternally concerned with the question of making a living out of the misfortunes of mankind. If things were as we should like to see them, only men independent of their profession as a means of livelihood would practice the science and art of medicine. Physicians should be men of independent means, deeply engrossed in their work as a scientific and philanthropic industry. That, of course, is an ideal which probably shall never be attained, but its improbability in no sense militates against its desirability.

Lack of adequate equipment is one of the crying needs of American hospitals. We have all of the externals, such as beautiful buildings and grounds, but the interiors are woefully lacking even in the simplest essentials for the study and combatting of disease, such as charts and models and anatomic specimens. Disease should be studied at close range at the bedside, not through a telescope but through a microscope.

The annual report is the midnight spectre of every present-day hospital superintendent. If he cannot show a decrease in the amount of expenditures over receipts as compared with previous yearly records, he is liable to lose his job. Hospital trustees are usually laymen with no adequate idea of the requirements of a great medical institution, and they fail to recognize that true economy may sometimes consist in increased expenditure, not for beds and food, but for instrumentarium and reagents for the practical testing of some great medical problem. One would think that there ought to be no difficulty in securing an adequate supply of gauze, cotton and dressings, but in many institutions these are

grudgingly furnished, and in at least one great New York hospital all external dressings removed from patients are resterilized and used over and over again in order to save money. This may or may not be good economy. It ought at least to be unnecessary.

The efficiency of the great hospitals of Europe depends not at all upon the beauty or even hygienic construction of the buildings, but upon what is inside of them, upon large-minded, wonderfully trained and skilled investigators who are provided by the government with all necessary equipment, and with a salary sufficient for their immediate needs.

We must also educate our people up to the necessity of studying disease *after* death rather than before death. The rise and progress of medicine as a science has ever depended upon anatomy and pathology. In America we bury our dead under the supposition that death was due to this or that cause, but we really are seldom quite sure about it because of a sentimental aversion to autopsy. In Europe, particularly in Vienna, every patient dying in a hospital is subjected to thorough post mortem, and the physician is protected in this by governmental authority, as well as by popular opinion and the desire to know. In this way a hospital record contains a minute history of every case from the day of admission with bedside notes, physical signs, symptoms and laboratory analysis. This is of tremendous value to students, or to anyone who is studying a series of cases dying of a given disease. Consequently, text-books written from such data are actual reports of disease phenomena and not the exponents of fanciful theories or uncertain dogma which too often find place in the text-books published for the use of medical students in the United States.

We need to foster more and more the spirit of research, and we should open to all qualified foreigners visiting our shores the use of our research laboratories and material. Especially should this hold good for experimental or laboratory surgery. American surgery is highly regarded in Europe, and American surgeons are soon to lead the world in this particular branch of healing. In ten or fifteen years Germans, Austrians, French, Italians and Russians should be coming to us to learn surgery as we are now going to them to study diagnosis and pathology. As a matter of fact, they would come now and gladly if we were ready to receive them. An assistant to one of the most famous European surgeons recently visited New York for the express purpose of carrying out some researches at a great institution founded by a man of unlimited means presumably for the advancement of medical science everywhere; but he was obliged to turn away and go to Baltimore because it is against the rules of this institution to allow foreigners to carry out individual research there. They can come and look on but they must not touch. What sort of impression can such an unfortunate state of affairs leave upon the mind of the educated alien who has always heard of America as the land of unlimited opportunity? Will he advise his confrères to visit our inhospitable shores, and will he be inclined to throw open the doors of his own great hospital to the American physicians who visit him yearly in ever increasing numbers? Obviously not. How can there be harmony of action and unity of interests where there is such disharmony of courtesy. Our debts to European civilization must be acknowledged. We are not as yet all-sufficient for ourselves in spite of the prosperity howlers and Anglophobes. Our scientific and medical relations with the Old World should be even more indissolubly intertwined than our commercial relations. Where much is demanded much should also be proffered. We are living in an age of intense selfishness and individualization, and need to surround ourselves with a few safeguards. The surest safeguard against self-centralization and inordinate conceit is a wide knowledge of peoples and races of men, but the obligation is mutual and we must allow them to know us just as well as we know them. We must give them of our bounty just as freely and fully as they are giving and have given us. There should be no question of jealousy or narrow-mindedness, which is almost synonymous with jealousy, between ourselves or between us and our fellows across the great waste of waters.

If foreign study is to be discouraged in this country in the present era of civilization, what is the portent for study at home during the coming era? A certain hospital, although it claims to be a teaching institution, does not possess even the minor essentials for efficient treatment of out-patients who spend nearly all of their afternoons and three times a week at great personal sacrifice of time and wages "waiting their turn to see the doctor." If the said doctor wishes to continue work in this hospital he must carry his

tools from his private office to the hospital and back. Naturally there are some armamentaria such as X-ray and high frequency apparatus which cannot be carried in a hand-bag.

There has recently been a great scandal in Vienna relative to how medicine is studied in America—"Wie die Medicin in Amerika Studiert Wird," which grew out of an echo from an ill-advised book written by an ex-member of the medical profession, published in New York a couple of years ago, and also from the scathing report of a worthy commissioner appointed to inspect American medical schools. It was interpreted from the alleged facts that most of our medical schools are located in cow-stalls, and possess a few broken down stools and rusty microscopes. The shock was felt by every member of the American colony in Vienna, and it took the strenuous efforts of no less a man than the amiable Professor Adolf Lorenz to smooth out the wrinkles and give to the American physician the standing he very properly deserves. Reforms must, of course, come from within, but it is sometimes necessary that the besieger of the citadel of self-content be an iconoclast of the first water in order to stir up a proper amount of righteous indignation.

The entire matter may be boiled right down to the following facts: We ought not to be satisfied with the present status and conduct of our hospitals, because, in the first place, there are too many of them, and, secondly, their efficiency is out of all proportion to their enormous cost. Moreover, we need one, two or perhaps three centrally located hospitals in New York City, the chief function of which should be to care for the sick, to provide adequate means for medical research, and to offer to all qualified students proper facilities both for undergraduate and advanced work. The graduates of such institutions, and all other practicing physicians who have passed the State's requirements, provided by law, as to fitness, should have the privilege of seeing and treating their cases both public and private and of benefiting themselves through access to laboratories and lectures at a satisfactory fee, which should go into the hospital treasury as a part of the "maintenance fund." All teachers and professors should have had an European training or its equivalent, and should not be actively engaged in private practice as a means of livelihood. The writer does not believe that prevailing order will come out of the present chaotic condition in medical circles until some such plan as is here outlined is put into action.

I. W. V.

A REPORT OF PROGRESS FROM THE PRESIDENT.

It is a pleasure to report to the members of the Society that the plan of reorganization which has been outlined in the editorials of the October and November journals is attracting wide attention. Letters and comments of approval are being received from all sections of the state. The interest is increasing in developing these new phases in the arrangements for our annual scientific session, to be held in Albany, April 16, 17 and 18, 1912.

Our predictions regarding the numbers of men who are specially interested in the sections outlined are more than being fulfilled. Already the Section on the Eye, Ear, Nose and Throat has a bona fide list of men devoting their time exclusively to these affections of more than 400 men. In the Section on Mental and Nervous Diseases, Eugenics and Medical Expert Testimony, the membership will probably exceed 400. Exact reports from the other sections have not yet become available, but the secretaries are using every effort to interest a very large number of men in every line of work.

The outlook at present is that there will be an enormous increase in the attendance and that we shall be able to present from 125 to 150 papers with sufficient time for ample discussion of all. It is believed that these programs will be so varied and the topics so interesting that the interest of our 7,000 members will become aroused to a point where none will feel justified in remaining away, except for the best of reasons. The committee of arrangements have already commenced their duties in arranging for the convenience and comfort of the members during their sojourn in Albany. In conjunction with the arrangements for the purely scientific portion of our meeting, the entertainment and good fellowship of our members are not being neglected. We propose to devote ample time at luncheons and evening entertainments to afford the members the privilege of getting together and thus to greatly enhance our friendships with each other, as well as our interests in the progress of the science of medicine and surgery. It is probable that the social entertainments which are being arranged by a Committee on Entertainment, made up from members of the standing Committee on Arrangements, will devise new and novel methods in carrying out these suggestions.

Early next month there will be held in the City of New York a joint session of the Committee on Scientific Work, the Committee on Arrangements, and the Officers of the Sections, for the purpose of perfecting plans, and to definitely decide upon the number and character of the orations and papers to be presented. A brief report of the proceedings of this meeting will constitute a special article for the January number of the JOURNAL.

It is our purpose to place in the hands of the members a preliminary program both of the scientific session and of the entertainments soon after February 1, 1912.

WENDELL C. PHILLIPS.

Original Articles

THE PREVENTION OF DEFORMITY.*

By WISNER R. TOWNSEND, M.D.,
NEW YORK CITY.

ONE of the most notable features of the close of the 19th and the beginning of the 20th centuries is the importance that is paid to Preventive Medicine. Boards of health and the profession, aided by many non-professional people, are spending much time in educational work looking to avoidance and lessening of disease. Sanitation has made possible the building of the Panama Canal, diphtheria is not the dreaded disease that it was, owing to antitoxin, and the most recent developments would lead one to believe that typhoid fever can be controlled by vaccination. As members of the Association of Erie Railroad Surgeons, all present are interested in preventive medicine and sanitation because it means that quarantine and other measures will be more intelligently carried out, and that eventually proper steps will be taken by all roads, where they have not already ben taken, to prevent the spread of contagion in the cars and to make it possible for a sick person to travel without endangering the lives of others. Much has been done already in this direction by some roads, but the practice is not universal, and although certain legislatures have abolished by law the public drinking cup, yet there are many other ways of carrying contagion and the ideal has not yet been reached. The Pullman Palace Car Company is making distinct efforts to improve conditions in its cars, and various scientific men are making investigations to ascertain whether air is or is not contaminated. A most interesting article on the subject, which may perhaps be unknown to some of you, but probably has been read by all, is the one by Crowder in the *Archives of Internal Medicine*, 1911, vol. 7, page 85. It tends to show that much of our discomfort in night travel is due to overheating and not to insufficient or contaminated air supply and, of course, the efforts to remedy the defects will in due time be successful.

The prevention of bodily deformities, however, attracts but little attention and yet it is a serious subject and one worthy of consideration. Those who are working not only in surgery, but for railroads, should realize that the prevention of deformity is an important part of the work. Many are the causes that produce deformity and for convenience of description we may divide them into deformities following traumatism, such as fractures, etc.; deformities following disease, such as angular deformity after Pott's disease, a contracted limb after poliomyelitis, bow-leg following rickets, or deformities which may be due to a combination of traumatism and disease, in some instances aided by improper treatment. This latter result may rarely be the fault of the surgeon, more frequently it is due to lack of appreciation on the part of the patient of his condition and failure to carry out the instructions of his surgeon. It has seemed to the writer than the number of deformities following fractures, applying for treatment at the Hospital for the Ruptured and Crippled, has been much larger in the last few years than formerly. No statistics have been gathered to prove this, because to go into the subject fully would require a vast amount of time and labor and the statistics would prove nothing. That fractures are better treated to-day than ever is probably true, but the large number of cases which are followed by deformity shows very clearly that in many instances either the surgeon or the patient is at fault. These deformities may be simply æsthetic in that they do not affect the usefulness of the part involved or they may seriously interfere with the function of a limb or of a neighboring joint. Many of the conditions surrounding practice to-day are so vastly improved over what they were years ago that the proper treatment of all factures should necessarily follow. The use of the X-ray has made the diagnosis easier, and if the picture is taken in two planes the amount of deformity can usually be ascertained, and it is desirable in most instances, if there is any doubt in the surgeon's mind as to whether or not the deformity has been reduced, to take an X-ray after reduction and get a clear idea as to just how the bone has been "set", as the laity call it. The writer, on two occasions during the past year, took down plaster of paris dressings after he had seen the X-ray taken after application of the dressing, and in each instance improved the condition. The time to ascertain whether the deformity has been reduced is immediately after the dressing has been applied and not three or four weeks later. It should also be here stated that the use of X-ray pictures in court is of very doubtful value in determining the true result. In most instances it is impossible to absolutely replace both ends of a bone in the normal line, and function should above all things be considered in determining a result, not a shadow as shown by the X-ray. An absolutely perfect functional result in the middle of the tibia and fibula, for instance, may show considerable displacement of both bones, and in many instances patients come to the hospital asking for relief from a deformity and bitterly complaining of their surgeon's lack of skill, when in reality there is but little deformity and the result is good, but the X-ray picture has completely demoralized them. In one case the author knew of, the patient was in constant fear of a re-fracture because the bones were not in perfect apposition, end to end, yet the union was good despite the slight deformity. It is also of doubtful value to show the X-ray to the patient. A false impression is usually created and harm rather than good is apt to follow. Fractures about the joints

* Read before the Association of Erie Railroad Surgeons, at New York City, October 2, 1911.

should all be subjected to X-ray examination before and after reduction, and if this is done proper treatment can be instituted and a proper prognosis made. The interpretation of an X-ray is not always easy and in many cases an expert is needed to accurately determine what is and what is not present. Epiphyseal lines have been mistaken for fractures—air bubbles and defects of photography for calculi, etc. That deformity is a prominent factor in causing trouble not only to the patient but to the surgeon is well known. Of the 300 cases of alleged malpractice defended by the attorney of the State Society, Mr. James Taylor Lewis, seventy-five per cent. were cases of fracture, and the Colles's fracture cases in the majority. Deformity following fracture of the femur is very frequent among those applying at the hospital. The question of the proper treatment of the different fractures is not under discussion, but the author would like to quote from a paper recently written by a colleague at the hospital, Dr. John B. Walker, and printed in the *American Journal of Surgery,* April 11, 1911:

"Mr. Dent, who for many years observed and followed the fractures occurring among the Metropolitan Police in London, concluded that fractures of the femur uniformly lead to permanent unfitness for the work that devolved on those men. Erichsen wrote that fractures of the upper third of the bone were invariably unsatisfactory in results. These cases are especially difficult to treat, as it is almost impossible to preserve their alignment. The lower end of the upper fragment is drawn upward and rotated outward, while the upper end of the lower fragment is drawn upward and inward. It is interesting here to recall also the conclusions of Allis in 1890 that the conversion of a simple fracture into a compound fracture affords the only means of accurate diagnosis and the only method of rational treatment of fractures at the upper third of the femur, and that patients and surgeons who stop short of this must compromise with the best results. These and numerous other records indicate that the results of conservative treatment in thigh fracture have not as a rule conformed to the high ideals which govern every modern surgical undertaking.

"During the past two decades almost the whole body of modern surgeons has appeared to be concentrating its attention upon abdominal lesions, so that the treatment of fractures, which are of most frequent occurrence, has been somewhat neglected. The old method of treatment by splints has not progressed to anything like the extent which other and more recent branches of surgery have—such, for instance, as the surgical treatment of abdominal lesions. Since the X-rays have enabled one to see and photograph the broken bones, the public have taken an increased interest in fractures and are demanding greater skill in their treatment. Many eminent surgeons of acknowledged skill and broad experience approach ordinary thigh fractures with guarded prognosis. In the past they accepted results as satisfactory which are now considered most unsatisfactory. In 1891, Stephen Smith, as chairman of the fracture committee of the American Surgical Association, asserted a 'satisfactory result to be present when shortening did not exceed one-half to one inch.'

"A satisfactory result is often too elastic a term. Shortening sufficient to entail permanent limping, angularity, and rotation are not rarities in surgical experience. Lanninger states that the degree of diminution in the earning capacity of a laborer is dependent upon the amount of shortening.

"The renewed prominence given of late to this most interesting and important branch of surgery warrants an extended examination of the situation from all points of view in consideration of the widely divergent opinions held by many of our most eminent surgeons."

This article shows clearly the necessity for better treatment of fractures of the femur. The bad results all had deformity and the shortened leg means over-riding of fragments. All fractures in which the broken ends are not easily placed in position should have the deformity reduced under an anæsthetic, and it is the failure to do this in many instances that causes such unsatisfactory results. It is also a fact that often perfect reduction is impossible and that even with an anæsthetic a slight amount of deformity will result, but if men would realize their limitations, and when one finds that he has a bad fracture, call in a consultant who has had special experience in treating fractures, or send that patient to a hospital for an operation or for the application of a dressing, deformity would not so frequently follow. All surgeons are supposed to be able to reduce a fracture, but such is not the case. There are many who have had no special training and who are not doing justice to their patients when they attempt to treat such conditions, and yet some of the worst cases of deformity were not treated by the most inexperienced surgeons. An anæsthetic is also desirable in many instances to ascertain the exact extent of the fracture, and with that knowledge proper treatment can be instituted. In some a good result can only be obtained by an operation. The patient should be so informed and then the responsibility is placed where it belongs. In railroad work it is especially important that deformity should not follow a traumatism, because first it impairs the usefulness of the patient, and second, brings up the legal question of compensation for damages. This last question is one that is of growing importance among employees, owing to the fact that industrial insurance will sooner or later be cared for by legislation, and corporations will be compelled to see that those injured have not only the best of care, but that that care shall, as far as possible, preclude any future financial obligation for want of special skill on the part of the surgeon. The writer has seen a

number of patients with serious flat-foot where deformity had followed a Pott's fracture of the ankle joint. It is easy to get such a deformity, but it can be avoided in nearly every case by proper treatment. The same is true of the deformity after Colles's fracture; with proper care it can be nearly always avoided, but as the treatment of fractures is not under discussion, to call attention to the fact that deformity may occur, is all that is desired at the present time.

Many of the minor injuries tend to produce deformities in time. The author has seen many patients who have had various grades of flat-foot, which had followed sprains of the ankle, and one is especially likely to sprain the ankle in alighting from a moving train. The fact that the car has not stopped may mean contributary negligence, but that has but little weight with the jury. They generally imagine that the train should have stopped, or take the statement of the passenger that it had stopped or started up before he had had time to either alight from or get on a car. Sprains of the ankle are also often erroneously diagnosed when there is a fracture of the fibula. The X-ray is a convincing witness in such injuries, and when one is called to see a case of sprained ankle that presents all the signs of a fracture, an X-ray should be taken and then the fracture properly treated. A word of caution is, therefore, necessary to see that those who have sprains of the ankle are properly treated and that deformity does not follow either from faulty diagnosis or from faulty treatment.

Practically all railroad corporations to-day have certain blank forms which are used as guides for the surgeon in examining applicants for work. The eye test is an old one and was introduced long before the general examinations of the individual were begun, but to-day lists have been made out of physical disabilities which bar employment, and amongst those are many deformities which can be and should be prevented. This list is contained in the Erie Railroad Company's circular, form 2196, and on form 2198 are recorded the results of the examination. These examinations show each year a certain number of men rejected for conditions that could have been prevented, and it is the duty of those who are working for the corporation as well as of those who are working in the interest of the people, to see that future generations may be as far as possible free from deformity. The treatment of a deformity after it has occurred may tend to cure the condition or relieve it so far as to permit of an applicant who was once rejected being accepted. This would apply to cases of hernia. If a man had had a successful operation and there were no recurrence, he might be accepted for certain lines of work. The congenital hernias can be cured in many instances during the first two years of life by a truss and during infancy the results of the radical operation show that not over 1% recur, so that no one should be permitted to grow up with a hernia. The mortality from the operation in childhood is a nearly negligible quantity and should not deter one from recommending the operation. In later life the question is somewhat different, but the recurrences are few and the mortality extremely small. The large majority of deformities, congenital and acquired, are not subjects of study until they occur. The state has stepped in and endeavors to prevent the marriage of epileptics, feeble-minded, insane, and criminally vicious, because the defects may be perpetuated, but club-foot and other deformities reappear in certain families, and no effort is made to stop such marriages. The author has seen three children with double club-foot where the parents had club-foot.

In our practice it should be our duty to see that all deformities, such as follow too early weight-bearing in children none too strong, are prevented. Bow-legs, knock-knees, antero-posterior and lateral curvature of the spine may be brought about by simply encouraging a child to walk or sit up before the body is strong enough. The normal child should not be encouraged to walk before he is twelve months of age. He should not be encouraged to sit up without any support for the back, when he bends over nearly double showing that his spinal muscles are not strong enough to hold him erect. The growing boy at work in shop or factory should not be permitted to carry loads so heavy that he bends over and acquires a lateral curvature. The full-grown man at the bench or machine should not be permitted to continue to stand in a faulty position, or to maintain a position that will eventually mean a curvature of the spine more or less permanent in character. Flat-foot is a condition which is quite prevalent and which in some lines of work debars the applicant from employment, and yet practically all cases of flat-feet might be prevented. A flat-foot is always preceded by a weak foot, and this condition may begin in early life, and may be entirely due to faulty shoeing. Many of the preventive measures used to strengthen a foot are supposed by some to produce the opposite result, but in the experience of the author, allowing a child to run barefooted is of no harm, especially as the child moves the feet and strengthens the muscles, and what we want is to develop the muscles of the individual where the muscles are weak, and they are weak in the majority of cases of flat-foot. Faulty shoeing is, however, very liable to produce this result and the surgeon should have a knowledge at least of the kind of shoe that should be worn if he is to advise those who come to him for advice as to what they should do in order to grow up with feet of normal type. The Army and Navy prescribe a shoe. They do not allow their men to become disabled for want of proper footwear, and while the railroads prescribe a uniform, yet many of their men are so badly shod that they sooner or later become disabled from that cause

alone. In the early life of the child it is perfectly possible for the surgeon to recommend certain things. He can examine the child from time to time and see what is needed. He can advise as to what should be the form of shoe. He can direct that the shoe the child is wearing should be abandoned, if it is of a type that will produce bad results. It is his duty to advise against measures that tend to deformity just as much as it is his duty to advise against the dangers that would follow the presence of one child with others with diphtheria or scarlet fever. Some may say that they do not know what shoe to advise. This is a difficult problem in many instances, and the dictates of fashion are such that this year the community may wear a fairly good shoe and next year wear one not so good, or absolutely bad. In order that you may have an idea as to what is a proper shoe I would simply suggest that according to Lovett and Codman, who have made the subject a study, a shoe built on the following lines would answer the purpose:

Requirements for a Good Shoe.

1. The inner line of the sole should be straight, or nearly so. In children it should diverge inside of the straight line to allow the maintenance of the great toe in Meyer's line. This requirement is necessary to prevent the displacement of the great toe.

2. The shank should be fairly high and stiff and not cut away at its inner border, where its support is most needed to prevent the foot from rolling over on its inner side in weak feet. Cutting away of the inner side of this is almost universal in women's boots. As a rule the shanks of boots are too low, especially this is to be noticed at their inner edge and one improvement to be made is so to manufacture the boot that the shank shall be oblique, highest at its inner border and sloping from that downward.

3. The sole of the boot should be as wide as the foot opposite the great-toe joint. It is not necessary to demonstrate, that for proper weight bearing, the ends of the metatarsal bones should be free to spread out and not to be crowded one over the other. This width of the foot is the most difficult thing to obtain, not only on the part of the wearer, but from the maker. At the hospital all boots are rejected at once, where an outline tracing of the sole of the shoe is not practically as wide as the outline tracing of the bare foot, with weight borne upon it.

4. The forward part of the sole should diverge inward from the long axis of the foot. That is, it should be made to hold the foot in an adducted position. This is because the prevention of adduction of the forward part of the foot is the prevention of pronation, because the position of adduction is the position of strength and of muscular activity. Holding the foot adducted tends to throw the weight onto the outer border of the foot and to preserve the arch.

In addition to poor shoeing it is desirable that the patient who has a weak foot take proper exercise and strengthen his muscles. It is also desirable that the foot should be developed properly by exercise and walking upon proper lines. The slight toeing-in, which so many complain of, is not a disadvantage in early life, and the violent efforts of shoemakers and parents to see that their children spread their feet and walk as they are taught to in the dancing school is all wrong. The Indian, the savage tribes, and those who walk long distances toe-in a trifle, or walk exactly straight. In studying the prevention of the flat-foot, a few lines from an article recently written by Drs. E. G. Abbott and H. A. Pingree, of Portland, Me., are not out of place:

"Any change from the normal in the structure and function of the foot to the pathological or the weak foot must come through a disturbance of the arch, and as long as the arch is maintained such a condition as weak or flat-foot cannot take place. Therefore, in examining a weak or flat-foot, it is necessary to consider only the arch and those structures which should control and maintain it, for if the arch is restored, and those parts which hold it in position regain their functions, the foot will recover its normal condition. The normal state of the arch and the parts which maintain and control it are then of primary importance, and any pathological condition, like that found in weak foot, is due to some change in these structures.

"In looking at the anatomy of the weak or flat-foot we find that the changes which have taken place are many, but that those which prevent the normal maintenance of the arch after all restriction to passive motion has been removed are of the most concern. The pathological alterations in the individual ligaments, bones, and joints are of little importance in this connection, as they are only incidental to the continued depression of the arch. It matters not in what condition we find the foot, it must first be brought to such a state that it is freely movable in all directions, *i. e.*, to a condition of weak foot.

"The next step or change from a weak to a normal foot presents a far more difficult problem to solve; therefore, the changes which take place in the joints and ligaments, in so far as they retard motion, may be left out of consideration, and attention given to those parts which, through their pathological changes, prevent a weak foot from being a normal one, namely, the ligaments and muscles. The ligaments are lax throughout the whole structure, and those muscles which control certain motions are lengthened, while others are shortened. On the inner side of the foot the anterior and posterior tibials are the principal muscles at fault. They are stretched much beyond their normal limit; are pulling at a great disadvantage whenever the foot is in use, and give no support when the foot is at rest. On the outer side of the foot the peronei are

found to be shortened and often displaced; but, instead of being weakened in their action, both as a support and as a lever, they are strengthened through this displacement, and work most advantageously in increasing the deformity. It is not unusual to find the heel cord shortened sufficiently to prevent the calcaneum from being held at its normal angle, thereby restraining the arch of the foot from preserving its normal contour when the foot is flexed. The plantar fascia, the principal truss of the arch, is stretched and gives little aid in holding the foot in position."

Railroad work subjects the individual to many trying conditions. Irregularity of habit may interfere with digestion, long continued standing may interfere with proper rest of the muscles and the development of flat-foot, but if care is taken to see that the feet are properly cared for, such condition is much less likely to follow. The prevention of deformity after disease is a subject of equal importance with those already spoken of. Where one knows that deformity will follow unless it is prevented, as in many cases of poliomyelitis, it is difficult to understand how so many cases of club-foot, genu recurvatum, etc., are permitted. Faulty cubitus in bed in long continued illness and other trifling causes may produce serious deformity. Eye strain or the need of glasses may cause round-shoulders and faulty positions in standing or sitting may produce both lateral and antero posterior curvatures of the spine. A shortened leg from any cause will produce pelvic distortions and spinal curvature. Improper school desks and improper instruction in personal hygiene may produce deformity. Other causes may act as producing factors, but enough has been said without going into further details. The treatment of Pott's disease of the spine and of hip joint disease are largely efforts to prevent the deformities that usually follow. This means a campaign of education, but the results that are being achieved in preventive medicine followed a campaign of education; what is being done today in stamping out tuberculosis, in car sanitation in many other lines, means education of the people, and prevention of deformity should go hand in hand with prevention of disease. Some may say that many of these deformities are simple and infrequent, but examination of the records shows that this is not the fact. The Board of Health of the City of New York undertook some years ago to ascertain how many there were in the schools who were deformed or diseased in any manner and who were not doing as good work as they should as the result of this condition. The results show that in 1910 there were found non-contagious physical defects needing treatment in 190,096 children among 255,894 examined; with associated defects, 103,622; with defective teeth only, 86,474; number receiving treatment, 119,806; orthopedic defects, 2,034, and treatment was given to 1,051 as a result of these examinations.

While the number of orthopedic defects may be small, as compared with the other defects, the important point is that most of them could have been prevented, and many of them had reached a stage where a perfect cure was no longer possible.

To appreciate the enormous number of flat-feet that present for treatment, I simply refer to the statistics of the Hospital for the Ruptured and Crippled, which show 2,131 patients, comprising 1,024 males, 1,107 females out of a clinic of 8,651 cases for the year ending September 30, 1910, or 25% of all cases seen; 1,466 were over 21, 431 under 21 and over 14, and 234 under 14. Many of these were unable to work on account of their deformity, and in many instances it was difficult to secure hospital treatment for them, because the larger surgical hospitals do not want anything except operative cases, and in many of these patients long-continued treatment would have been necessary before they would be cured. I know of no statistics that show the proportion of people affected to the total population. It must also be remembered that while the number of flat-feet to the total number of patients is extremely large in the Hospital for Ruptured and Crippled, yet this number represents only a small percentage of the total population affected with flat-feet, as patients do not apply to a hospital for treatment until disability, pain and deformity are present to such an extent as to render the individual most uncomfortable, and this is only the record of one hospital. Mild cases do not give up their work, but keep on until, in many instances, they eventually become severe cases.

The percentage of weak and flat-foot among adults is rather difficult to ascertain, as there are no statistics on the subject, but through the courtesy of Dr. Wood, of the Teachers College, I secured the following figures last year, obtained from scholars in the high schools:

Manhattan Trade School.

Number of cases, 239; weak arches, 85; flat-feet, 24.

Horace Mann School.

Elementary.

Girls—Flat, 2%; weak, 47%; 286 examinations.

Boys—Flat, 7%; weak, 47%; 245 examinations.

High School.

Girls—Flat, 0%; weak, 63%; 218 examinations.

Boys—Flat, 11%; weak, 61%; 202 examinations.

We all know that unless the general surgeon and family practitioner interest themselves in this matter, that the individual either is going to be neglected or is going into the hands of charlatans, and the condition to-day is deplorable in regard to the use of so-called flat-foot supporters.

People who have no flat-foot are wearing them; people who have flat-foot are wearing them. The first class do not need them; the second class get no benefit from them, because they are faultily made and do not fit. The abuse of flat-foot supports is growing and the profession is to blame for it.* Of the large number of patients seen at the hospital, who are unable to pay for treatment, nearly all have bought at one time or another some form of flat-foot support. The practice of many physicians of telling a patient to go to a shoe store and buy a support because he has flat-foot is certainly most deplorable and still more deplorable is it when the surgeon does not take the trouble to make an examination of the foot to see whether there is anything needing treatment.

It should, therefore, be the aim and object of all to endeavor to prevent deformity, and especially should those who are engaged in corporation work see to it that those who are to make the employees of the future are sound in mind and sound in body.

THE PATHOLOGICAL RELATION OF THE ANESTHETIC TO SURGICAL PROCEDURE.†

By WILLIAM C. WOOLSEY, M.D.,
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THAT the anesthetic has an important pathological relation to surgical procedure no one, I think, will gainsay.

The mere opening of an abscess, amputation of a finger, removal of an appendix, or even resection of gut, in a human otherwise physically perfect, could only now and then cause death from fear, etc., but induce that toxic state called general anesthesia for the purpose of doing even the most minor of these operative procedures and immediately a factor of danger more or less great is to be dealt with.

Excluding such surgical errors, as glaringly defective technique, which allows excessive hemorrhage, or unnecessary dawdling away of time, which exposes the patient for three or four hours instead of one, excluding actual mechanical disturbance of vital nerve mechanisms such as the medulla, vagus nerves or cerebellum, excluding these things, in surgical procedure we have few conditions of operative work which of themselves actually determine death.

It is the anesthetic; look back at the pulseless estopic recover, the old chronic, septic, nephritic, cardiac stand amputation of a leg under spinal analgesia, a surgical risk not worth a farthing under general anesthesia.

Look back at any number of subjects whose organs, vital to existence, are only remnants of their physiological selves and yet which live through years. This body of ours has an enormous factor of safety for most everything but overwhelming traumatism or poisons, organic and inorganic. Given the most severe operative procedure, the most grave pathological disintegration as from sepsis, the poorest old heart and kidneys, and if it were not for the necessity of general anesthesia, most surgical procedures would meet with surgical success as far as life goes.

The toxicological effect of the narcosis is the element of morbidity in the handicapped subject for surgery, whose factor of safety has been so overdrawn that this last straw of anesthesia determines death or serious sequelæ.

The anesthetic is related to surgical procedure in several ways to be considered at this writing.

First, it produces unconsciousness and analgesia, both of which conditions are necessary to the successful accomplishment of surgical work.

Second, it produces of itself or in conjunction with surgical procedure varying grades of shock.

Third, in causes in addition to temporary cellular disarrangement of nerve tissue, blood, lymph, etc., greater or less permanent (lasting some time at least), cellular disintegration or cell lysis. Under this heading may be included hæmolysis, hepatic disturbance causing glycosuria or even acute fatty degeneration; nephritic disturbance, pulmonary and bronchial; protoplasmic changes in the nerve cell of the brain; insanity; lowering of opsonic resistance; acetonemia.

Fourth, it causes vomiting.

Fifth, disturbed cardiac compensation.

These conditions all being related pathologically to the surgical procedure and outcome.

The first effect, that of unconsciousness and general analgesia, is what we seek and need, all the others are elements to be modified at least and liminated where possible.

The second, that of shock, is perhaps the most important, for that condition most often makes the surgical work of no avail through death of the patient, and indirectly hampers surgical progress on account of the bad reputation it gives, because of which reputation subjects are slow to accept operative relief. Surgical shock is either hemorrhagic, traumatic or toxic. The first the anesthetic has nothing to do with, the second or toxic belongs partly to the surgical condition present, viz., sepsis or other surgical toxemia and partly to the anesthetic; sepsis the anesthetist cannot help, the toxemia of the anesthetic he is bound to reduce to a minimum.

The anesthetist must be so familiar with the therapy of the drug that he is using and with the individual requirement as to dosage of each patient, that minimization of dosage is absolutely assured. He must be so familiar with the physical condition of his patient and the surgical work

* See article by the author in Transactions of the American Orthopedic Association for 1905.

† Read before the Kings County Hospital Clinical Society, November 23, 1911.

to be performed, that he selects the least toxic agent of narcosis and technic of administration consistent with the surgical requirements of the case in hand. For example: He must never initiate an anesthesia with ether in a strong, athletic, alcoholic, plethoric individual, for in these subjects ether has to be given in extremely toxic doses before the desired analgesia and muscular quiet is attained; at least this is the case unless preliminary hypodermatic medication has produced the desired lessening of that necessity for toxic dosage. As a general rule nitrous oxide becomes a toxic agent of narcosis and dangerous to use in any condition where asphyxia is either present or may be induced by the mechanics of the operation, *e. g.*, adenoids and tonsils, angina Ludovici, empyema or other obstructive conditions of the respiratory passages.

He must never select chloroform where ether can be used with reasonable degree of safety.

He must never use either ether or chloroform where the circulatory factor of safety has been reduced to a minimum by hemorrhage or sepsis or traumatic shock, in which cases every last drop of resistance must be conserved to the utmost.

These conditions are such as to make the improper selection of the anesthetic agent the element of mortality in surgical procedure.

Traumatic shock from the anesthetic standpoint furnishes some of the most interesting and recently studied pathological phenomena germain to the subject. The traumatism of the surgical procedure itself is part of this traumatic shock but not included directly under our heading. The anesthetic trauma referred to is that caused by all grades of afferent nerve assault upon the general nervous mechanism, as noted in the form of fear and apprehension of the anesthetic, present just prior to operation and induced by the pathological nature of the narcosis itself.

In order to properly comprehend the nature of this afferent nerve assault or anoci-association, as Dr. Crile terms it, one must study for a moment, at least, the nature of general narcosis as produced by the agents usually employed. The effect of ether, chloroform, etc., upon the nervous system to the end of producing general narcosis, is at present and has been attributed to some selective action on the part of the agents used, for the nervous tissues; such an hypothesis in the light of chemical knowledge of to-day is decidedly less tenable than that this apparent selective action of narcotics is due to the peculiar structural arrangement of the nervous system whereby even slight chemical change in one part is diffused and rediffused and communicated to all parts. We are all familiar with the fact that when nerve tissue is being subjected to an agent which arrests its functions, that agent serves at the moment of its action to excite that nerve. Hence when any agent capable of so changing the molecular state of nerve matter as to arrest its function, is carried into the blood, it first acts on the nerve cells. Each change produced in one of these, be it the decomposition of a molecule or, as is more probable, the isomeric transformation of a molecule, implies a disengagement of molecular motion or nerve force that is immediately communicated to its neighboring molecule, each molecule being a center of discharged nerve force in the act of being incapacitated for further transmittal of motion. Each nerve cell being thus quickly acted upon and emitting successive discharges as the successive molecular transformations are wrought in it, there results a general nervous chaos, a tempest of incoordinate nerve force discharge, and as is plainly to be seen a coincident disintegration of the action of vital organs which depend upon fine nervous co-ordination for their control.

The effect of afferent nerve assault from fear alone is familiar to you in its causation of vomiting, fainting, etc. In preanesthetic days surgical subjects have been known to die from fear alone. In the laboratories of Dr. Crile, Dolly, Austin and Sloan, *J. A. M. A.*, Vol. LVI, No. 9, have experimentally concluded that "the same nerve tempest of afferent nerve impulses that produce circulatory depression or failure, at the same time so far disturb the neurocytes, Purkinge cells, that their nucleoli change their relation to the cytoplasm, the limiting membrane loses its continuity in places and chromophylic reaction is changed. The varying degrees of these changes are in proportion to the degrees of surgical shock. The neurocytes in cats have undergone similar change from fear alone."

So material is this element of noxious afferent nervous assault in surgical procedure, there is little room for doubt that in large operating clinics or small ones either where the reputation of the operator is such as to instill the utmost confidence on the part of patients for their surgeon, the surgical results are proportionately better and the belief is readily acceptable that in the unbalanced nervous mechanism of Grave's disease the post operative hyperthyroidism may be due in no small part to the added noxious assault of anesthetic induction so that Dr. Crile has not only adopted a preoperative treatment in Grave's disease that prevents the patient knowing when the true anesthesia for operation is to take place, but in addition blocks all afferent nerves from the field of operation during the removal of the thyroid gland. Surgery, Gynecology and Obstetrics, August, 1911.

The same principle of anoci-association prompts the careful cocainization of large nerve trunks in amputation of extremities instead of the rapid fire, cut and slash methods of battlefield days, with the result that much of the vaunted shock of amputation at the shoulder or hip is done away with.

The principle of anoci-association, against noxious nerve impulses, must become not only an important element of surgical technic but

just as important a principle of anesthesia in combating shock.

In explaining the occurrence of surgical shock or rather anesthetic shock as seen in surgical procedure, Prof. Yandel Henderson, of Yale Phys. Laboratories, has suggested some new ideas based on a new conception of the physiology of respiration.

First the writer would express his belief that the actual physiological observations reported by Prof. Henderson are absolutely correct, but that the majority of his deductions relative to anesthesia are misleading.

Second, that rebreathing in general narcosis depends only slightly, if at all, upon its raising the carbon dioxide contents of the blood, for its beneficial effects. That after such rebreathing or administration of carbon dioxide has once caused hypercapnia to replace acapnia, the consequent increase in depth and frequency of respiration can hardly be of sufficient benefit of itself to justify the combination of a procedure which utilizes the accumulation of waste material to whip the respiratory mechanism, at the same moment defeating the very purpose of that increased respiratory function, namely the elimination of said waste material carbon dioxide.

Third, that such rebreathing as in adopted in nitrous oxide—oxygen—ether anesthesia by Dr. Gatch has as its beneficial factors:

(a) The economy of the narcotic agents used, not from the viewpoint of cost, but from that of making the smallest amount of anesthetic do the greatest amount of work through limitation of pulmonary ventilation, therefore waste.

(b) The utilization of a technic of administration which excludes entirely the diluting nitrogen of air. When air is admitted with nitrous oxide and its quantity reduced to so small amount as to allow enough nitrous, the oxygen content of the respired mixture is so low as to produce asphyxia. In the closed technic, air is not only excluded from the breathing bag, but washed out of the lungs, too, and the patient is breathing nitrous and oxygen minus any diluting nitrogen of air.

(c) The gases are warmed by rebreathing and moistened.

(d) An increased nitrous oxide pressure is obtainable when needed by filling full the breathing-bag, which increase in pressure insures a certain added saturation of the blood with nitrous.

If rebreathing is harmless, as reported, to the degree adopted in the Gatch technic, then no doubt such a pathological condition can be tolerated to accomplish the above cited objects, but not to any great extent because of its benefit from the acapnic theory of shock point of view.

The traumatic shock of anesthesia has as primary causative factors first the afferent nerve assault of fear, apprehension, etc.; second, the afferent nerve assault of the anesthesia, especially during its induction or throughout a too superficial maintenance; third, the afferent nerve assault of the operative procedure itself and the condition for which operation is performed. All these elements in greater or less degree combine toward the end of determining the degree of central nervous disorganization at the time of and after operation.

Granting that all the actually observed physiological facts be true as reported by Prof. Henderson, the hyperpnœa, the acapnia, the acetonemia and asphyxial acidosis, which factor in this state appeals more to reason as the important element in apnœa vera, the over-ventilation of the lungs with reduced carbon dioxide content in the blood or the raised threshold of the respiratory mechanism, which raised threshold simply means a degree of dissociation in that mechanism, as part of the general nerve dissociation, incompatible with its proper response to normal stimuli be that carbon dioxide or oxygen.

We believe most emphatically that this latter condition is the important one and not the coincidental, inconsequential over-ventilation of the lungs; we believe that beyond utilizing the rebreathing or administration of carbon dioxide for a few minutes as an emergency measure, that either of these procedures would have little value, and furthermore it is difficult to realize that any procedure which utilizes waste material as a stimulant to the respiratory function as being else but source of harm if continued for any length of time. We think that Prof. Henderson has adopted a coincident physiological occurrence, a concomitant condition of shock, as its cause and in so doing withdraws attention from the true cause.

In the case of irregular anesthesia the acapnia produced is not the condition to be remedied, but rather the erroneous manner of administration or poor selection of the agent of choice in a particular case, in this way preventing the toxic depression of the nervous mechanism which is responsible for anoxemia, asphyxial acidosis and the whole respiratory upset.

We believe that tracheal insufflation anesthesia would be sufficient to produce acapnia by its forced ventilation of the lungs and recent success with this particular form of narcosis has developed to date no such condition apparent.

The anesthetic state can of course only be explained by temporary atomic disarrangement of the cellular elements of the nervous system, whether such disarrangement is of that nature which prevents the proper assimilation of oxygen by the cell, as held by Prof. Max Verworn in his recent lecture on narcosis before the Harvey Society, or other equally difficult to comprehend chemical changes in the protein element of the cell, we do know that in addition to this temporary change which produces unconsciousness and loss of sensation there exists more or less permanent cell change, the which bears an important physiological relation to the patient's surgical convalescence and recovery.

Ether and chloroform both produce disintegration of hæmaglobin and blood cells and materially

crease the coagulation time, this latter condition being present as late as the tenth post-operative day.

The acute fatty degeneration of liver cells is well known and in lesser degrees of hepatic disturbance, glycosuria is noted, renal disturbance is common as well as pulmonary and bronchial; insanity occurs and often lesser grades of psychic disturbance in the form of momentary lapses of consciousness occurring for weeks after anesthesia, especially when the mind is engaged in some of the finer co-ordinations of action. Opsonic resistance is distinctly lowered, which may be some isomeric change in certain gland secretions, a suspension of function in those organs or suspension of phagacic activity, in any case illustrating the far-reaching activity of the toxines of the anesthetic state.

Out of four hundred operative cases observed at the Boston City Hospital, forty-six showed signs of acetonæmia of varying degrees of severity. General anesthesia does precipitate this acetonemic crisis in patients whose condition is such as to favor imperfect oxidation of albuminous substances. Diacetic acid is the end product found in the excretory fluids of the body and in cases other than diabetes may cause post-operative death.

In the ordinary healthy individual all these remote effects of general anesthesia need hardly be considered, they are conserved by the enormous factor of safety of the human body. We administer thousands of anesthetics without noting the existence of any of them perhaps, therefore the general optimism toward anesthesia.

We must, however, save the thousand and first case and even in the thousand recognize the deleterious effects of narcosis on the surgical convalescence and recovery, here lies progress, science. We must study and know why the occasional case dies during narcosis. General anesthesia does not cease its responsibilities when the patient is wheeled out of the operating room, as any surgeon can testify.

We would ask again, what so often turns the slow but certain battle against sepsis into a losing one? The anesthetic. What makes a goitre's post operative hyperthyroidism fatal? The anesthetic. What makes a post operative anemic subject die, apparently from lack of power to pull itself together as our saying goes? The hemolytic effect of the anesthetic, forty per cent. hæmaglobin becomes twenty-five per cent. after operation.

What makes the mortality of prostatic removal so high? The anesthetic. Sepsis, anemia, nephritis—age—handicapped subject. Remove the handicap of sepsis and nephritic disease by proper pre-operative care and great measure of success follows.

Some people vomit if their nervous balance is so far disturbed as to take an elevator up or down a few stories; many vomit if they are forced to ride on the elevated road, so we can hardly expect to eliminate vomiting entirely in anesthesia. However, most of our post anesthetic vomiting is toxic, part of it traumatic as in mechanical disturbance of abdominal viscera causing acute dilatation of the stomach or misplacement of the bowel, some of it psychic, the result of nervous unbalance comparable to dizziness.

The anesthetist who adopts the principle of constant minimum dosage instead of intermittent maximum will have in all cases less vomiting than he who doesn't. The anesthetic technic which eliminates asphyxia, swallowing of strong ether vapor and provides for nitrous oxide, the major part of the narcosis will probably limit the occurence of nausea to the lowest degree.

Post operative emesis may disturb abdominal wound apposition, may cause secondary hemorrhage, may even cause death when persistent. If the vomiting is a symptom of acetonemia, that condition must be recognized, if due to acute gastric dilatation, different measures for relief are indicated, other aspects are purely surgical.

Ether and chloroform must be pure chemically, Alcohol as a dilutent of ether furnishes water, which in the presence of oxygen oxidizes the peroxides of ether forming acetaldehydes. Ether free from acetaldehydes causes much less vomiting than impure ether. Chloroform may contain alcohol, but should be protected from light by dark containers and from air and the cork by tinfoil or similar covering to the cork. Baskerville and Hamor, *Journal of Engineering and Chemistry,* May and June, 1911.

The principal relation that anesthesia bears to cardiac disease is relative to the presence of serous transudation. Chloroform and ether have equal effect upon kidney lesions, except in the presence of a tendency to anasarca, in which case ether is extremely liable to increase such transudation, to the end of causing post-operative pulmonary edema. The effect on the heart itself is slight if not mechanically hampered by asphyxia or similar pulmonary obstruction to the right heart action. Old asthenic myocardial hearts show tendency to weaken materially with gradual slowing of their force and frequency until beating at the rate of fifty or fifty-five they stop altogether. The anemia that accompanies cardiac or nephritic disease is a much more important matter for conservation than any simple valvular disease.

In the light of what we know to-day about the dangers remote and coincident with general anesthesia, in the light of what we know about its intimate connection with and influence upon surgical recovery and success, can we longer consider the anesthetic in so optimistic a manner as to relegate it to the newest member of the house staff—*or a nurse;* can we longer consider it as simply a mechanical process of pouring so much ether or chloroform on a gauze mask; can we leave its teaching to information handed down from one member of a house staff to another, or

dictated at long distance by the operating surgeon, whose only main object for the moment is to secure cadaveric relaxation of his subject. Is the fact that because the majority of patients whose factor of safety is equal to the anesthetic assault, do not show ill effects of narcosis, going to make us blind to the safety of that patient whose handicap from disease is so great that the last straw of general anesthesia is allowed to cause his death, with the surgical verdict that he was too far gone to recover.

I say no. The surgeon with the lowest mortality, other things being equal, will be he with the best anesthetist, and I beg to submit the opinion that that surgeon who thinks, will find few greater influences in his success or failure than his anesthesias.

If clinics where nurses are used as anesthetists do well, they are condemned for they could do better and won't.

The surgeon who answers your argument by saying that the old ways are good enough for him, is condemned for he certainly can do better and won't.

CAUSES OF POST-OPERATIVE COMPLICATIONS AND EARLY VOLUNTARY MUSCULAR MOVEMENTS WITH AVOIDANCE OF THE USUAL CONFINEMENT TO BED AS A MEANS OF COMBATING THEM.*

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THE customs necessitated by operative procedures in days preceding aseptic surgery and carried out by the pioneers in early modern surgical work still have a marked influence in many spheres upon the operator. Not only is conservatism in progress the rule among us but through lack of proper facilities for experimentation and time for thoughtful consideration of the ever broadening and rapidly changing problems in our profession, many there are who have found it advisable to continue with methods that have stood the test of time even though they have had disagreeable sequelæ with perchance an accompanying though small mortality. It may be that such mishaps have been deemed as never entirely avoidable but such a state of mind readily leads to a condition of self satisfaction which is not conducive to advancement toward more uniform and simple procedures which must finally result for the attainment of conditions most beneficial to the patient who it is attempted to relieve.

It is not, however, for the purpose of advocating less conservative operative work, rather the contrary, the abatement of many procedures unindicated and accompanied often by grave complications, that the post-operative treatment here advanced is called to your attention. For it is only in cases where from prolonged acquaintance with the operative technic from primary incision, through remedial measures performed, to closure of the wound, with simplification of the process and avoidance of unnecessary traumitising and time consuming theoretical steps, purely visionary in value when tested by the rule as to whether or not they *assist* nature, that procedures such as are here advised are feasible.

The post-operative sequelæ some of which we have all observed in our work can be but alluded to here. However, the more common may be mentioned and are discomfort, if not actual pain, bronchitis, pneumonia, pleurisy, shock, hysteria, neurasthenia, insanity, urinary retention, cystitis, nephritis, acidosis, infection, hemorrhage, thrombosis and embolism, tympanities, vomiting, acute dilatation of the stomach, constipation, intestinal toxemia and slow recuperation.

In considering the causes of these operative sequelæ *factors existing before* or *originating with the procedures executed* are observable. Thus affections of various parts previous to operative interference are often followed by complications in them or influence the origin of sequelæ elsewhere. In illustration may be cited the oft repeated observations that when a congested lung or slight bronchitic condition is present bronchitis and pneumonia are particularly liable to occur following irritation of the anesthetic, undue exposure or the aspiration of small foreign particles or mucus; that gastro-intestinal disease is a frequent precusor of intestinal toxemia, excessive vomiting and prolonged convalescence; and that pathologic conditions in the walls of blood vessels, abnormal changes in their contents, undue coagulability of the blood and vasomotor disturbances are not infrequently associated with irregular heart action and thrombosis and embolism. True these complications are more often seen in the aged, but that such factors play an important part in the outcome of operative procedures at all ages cannot be doubted and a pre-existing knowledge of the activity of these functions will not only prevent unlooked for sequelæ but will lead to measures which forestall their inauguration.

Equally important in producing effects to be avoided are operative procedures themselves and the introduction into the body of poisons in the form of stimulants, anesthetics, etc. The circulatory system bears the brunt of the attack although indirectly and to some extent directly the gastro-intestinal and excretory organs suffer.

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* Read before the Middlesex County Medical Society of New Jersey, October 18, 1911.

It is well known that in conditions of shock, the blood may accumulate in the splanchnic vessels, in which it is estimated, one-third the total volume of blood in the body may accumulate and into which the patient can literally bleed to death, but it is less generally recognized that with the removal of large growths, interference with abdominal pressure through simple laparotomy, or more especially with exposure and irritation of the viscera, a similar effect may obtain, either as the direct result of normal tension removed or from reflex dilatation of the enormous vascular area involved, conditions often associated.

Apart from the above considerations operations in so far as they result in the sudden accumulation of waste products in the body under the stimulus of anesthetic and drugs, or through tissue destroyed, or efforts at repair, can be fairly compared to the effects of exercise. That a period of reaction with lowered blood pressure follows every anesthetic as it also temporarily succeeds exercise is to be noted. In operative cases moreover there is a further ill-effect for oxygenation is diminished, the action of the antitoxic organs, liver, thyroid and suprarenals, is more or less inhibited and excretion delayed. The result is observable in nearly all these cases where the post-operative treatment is such as is at present in vogue. Reaction does not take place as such but the entire system is overwhelmed with products of waste, the patient feels as if he had done hard manual labor or been severely beaten. He is exhausted, aches and pains are prevalent, the circulation is poor the hands and feet cold, blood pressure is lowered, the urine shows increased toxicity and the effects of renal irritation and but gradually does he regain his former state of health, and then only after a period of serious and dangerous depression of his vital functions. Especially does the nervous system show the effect and hysteria, neurasthenia and even insanity are possibilities. Together with these conditions are others less easily recognized but equally important, namely the interference with the nervous control of the circulatory system, as has already been alluded to, and the associated effects upon gastro-intestinal, hepatic and renal functions whereby meteorism (the most prominent of the abdominal signs of loss of blood vessel tone and thereby of interference with the circulation which normally rapidly absorbs intestinal gases) intestinal stagnation, vomiting, constipation, acidosis of hepatic origin and retention of waste products result.

In summing up the etiology of operative sequelæ no one factor can be singled out to the exclusion of the others but it becomes evident that circulatory disturbances are of prime importance, especially when considering the prophylactic treatment of these complications. For even where pre-existing conditions, as irritation of the respiratory tract, intestinal or rectal abnormalities, disturbances of the nervous system, and interference with the activities of the emunctory organs have been eliminated, all again may be initiated by functional circulatory disturbances affecting vessel tone and vascular supply, and even in the presence of organic changes in any of these systems we find that by proper forethough for and regulation of the circulation, maleffects are largely eliminated.

In the prevention of complications therefore it is of the greatest importance to bear in mind three objects. *First,* the correction or elimination as far as possible of diseased conditions in the circulatory, respiratory, nervous, gastro-intestinal or excretory systems. *Second,* the removal of poisons already in the body as the result of disease in these parts and the minimum introduction and early destruction of deleterious substances as anesthetic, drugs, and the waste products of operative work. *Third,* the control of arterial tension which will result in a proper supply of rich aerated blood, rapid repair and the elimination of harmful products.

The *first* is in many cases impossible of attainment but with a knowledge of the presence of pathologic states, the fulfillment of the second and third indications is all the more urgent and the prognosis can be more clearly discerned. However, irritations and acute conditions can be corrected and even interstitial changes and the consequences of arteriosclerotic processes can be benefited.

The *second* object is also one of great importance but through means of cathartics, preparation of the patient for operation, the use of minimum amounts of the anesthetic and other commonly carried out procedures it is usually obtained.

The *third* goal of our endeavor, control of arterial tension, is a factor that seems in a large measure to have escaped the attention it demands and by way of exclusion the inference is strong that it is here will find causes for some of the more explicable post-operative complications such as infection, poor recuperation, discomfort and pain, peritoneal adhesions, tympanities, vomiting, constipation, diarrhea, bronchitis, pneumonia, œdema of the lungs, cystitis, urinary retention, hepatic and nephritic insufficiencies, hysteria and neurasthenia, autoinfection and asthenia, as well as others of a more inexplicable etiology and more serious portend such as thrombosis and embolism.

Bearing upon this important subject, the researches of Lowsley are of interest. He found that blood pressure and the pulse rate were usually increased during exercise and that after exercise a period of reaction sets in during which there is a sub-normal pressure,

greater or less marked according as to whether the exercise is more or less exhausting. He believes if this negative phase persists for more than two hours the margin of safety has been exceeded. As a matter of fact when the subject is in good physical condition he obtains what athletes call his "second wind", which means nothing more than the correlation of the blood pressure, rate of flow and distribution to the required degree of oxygenation, transformation of waste products, and their excretion, and under these circumstances the negative phase is comparatively short. Moreover, provided suitable exercises are prescribed and massage and stimulating baths given, this stage may be nearly eliminated.

On the other hand Edgecombe has shown that individuals with low blood pressure are subjects with poor circulation, cold hands and feet. He believes that it is the extreme feebleness of the circulation that gives rise to the subjective sensation of intense fatigue and this is corroborated by the fact that with a rise of pressure there is an almost invariable improvement in the subjective feelings and of the neurasthenic or other symptoms present.

Considering the question of blood pressure relative to more or less prolonged rest, as illustrated in those who take to their bed for minor ailments, we find that there is a rapid loss of strength, arterial pressure soon drops with the changing from the upright to the prone position and quickly goes still lower when the latter is maintained, appetite is lessened, intestinal functions become sluggish with resulting tympanities and constipation, urination is more difficult, hypostatic congestion of the lungs is not infrequent and in general a formerly healthy individual becomes weakened, the abdominal muscles flaccid, normal vasomotor tone lost for a considerable period and convalescence is much delayed, even when the subject has remained in bed for as short a time as 48 to 72 hours. These patients are unable after this comparatively brief interval of complete rest to get up and maintain an upright position without experiencing faintness or syncope and other signs of cerebral anemia, which follow when arterial tone is lowered and the blood under the influence of gravity distends dependent vessels leaving important centers in the medulla without a sufficient supply.

If this is the course of events under normal conditions, how much more are the same forces active in sickness can best be realized by the test which is almost universal to-day of keeping patients particularly after abdominal operations in bed from six to twelve or more days. The operation as has been stated supplies all the elements which follow severe fatiguing exercise and usually is performed upon patients in poor physical trim and unable to obtain a normal reaction even under the best conditions.

In the aged and in those suffering from severe symptoms of absorption and poisoning, whether urinary from accompanying cystitis or of gastro-intestinal origin, attended with the train of nervous phenomena closely related to it, or from other source, operative work has been associated with great risks as to life, and many of these subjects with apparently no resistance die of a toxic overwhelming. The institution of the semi-recumbent position or one constantly changing has been followed by increased comfort, fewer lung complications, greater vitality, a more rapid convalescence, and lessened mortality, but these facts have failed to influence the trend of surgical thought to the extent their importance demands. We still see patients lying in bed for a much longer time than necessary, double and often triple the time required, upon no rational basis we will find if we analyze the reasons. Many of us have seen subjects with simple conditions prohibited from raising the head from the bed, who in the course of a comparatively short time became so weakened that it was weeks before recuperation was completed. Perchance for a slight ailment which should have required no confinement or at least the very shortest, this factor of weakness apart from complications has demanded valuable time of the patient.

The argument does not hold that because of poverty or poor surroundings it is wise to detain a patient long in hospital wards. The dangers he runs under these conditions are too great and a suitable place of convalescence elsewhere would be more to his liking, conducive to self respect and an early, safe recovery.

There are those, however, who cannot divorce themselves from the methods fitting to the early days of modern surgery. Especially in the period of antiseptic technic infection was not uncommon nor was it unexpected in many cases where it would be considered an evidence of a gross error in the aseptic method of to-day. In these instances and in others where drainage, which now we find infrequently required, was instituted, *fear of a weak wound* or *interference with peritoneal repair* and *the presence of fever* led to a variety of after treatment for which reasons no longer exist. *Pain* also in the past was a much more serious factor than at present since by uniform and gentle methods of operating and the elimination of unnecessary procedures less trauma is done the tissues and convalescence is more comfortable.

An incision that is improper or wound that becomes infected may demand rest to insure a strong scar. However, with the avoidance of infection, of nerve and muscle traumatism

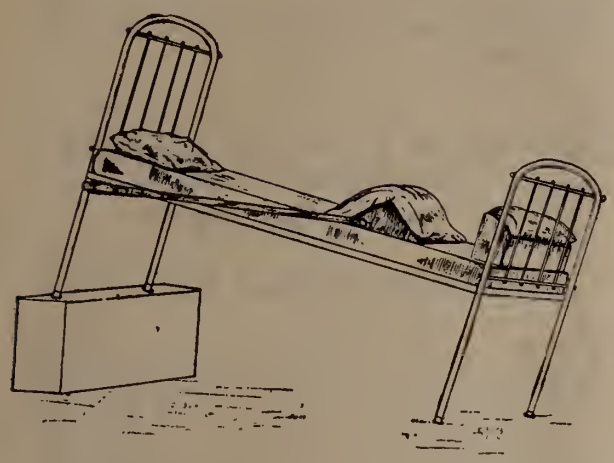
Fig. 1.—Nerves showing from above down—6th, 7th, 8th, 9th, 10th, 11th, 12th dorsal, ileo-hypogastric and ileo-inguinal. Upper nerves lie upon transversalis and pass beneath rectus abdominis muscle. Lower two lie upon internal oblique muscle.

and division, and the use of incisions based upon anatomical lines (Fig. 1) there will no longer result weak abdominal walls and patients will be enabled safely to leave their beds, certainly by the fifth day. Even in herniotomy in so far as the patient is immediately propped up, although detained in bed somewhat longer than usual, it is seldom necessary to vary from a similar plan. This is fortunate if we can admit that danger of embolism, many cases of which have occurred in this type of operation, is thus avoided.

There are rarely serious objections upon the patient's part and as they are made more comfortable and feel better when propped up, the slight forebodings that may exist are readily overcome.

The great advantages to be obtained are the early recuperation of the patient, a lessened liability to infection, the avoidance of thrombosis, embolism and pulmonary complications, a diminished mal-effect upon the nervous system, a better performance of the physiological processes of digestion, assimilation and excretion, increased aeration of the blood and proper functional activity of liver and kidneys. Special note indeed should be made of the spontaneous bowel and bladder evacuations which rapidly follow early rising, thereby leading to a marked improvement in the patient's condition, as well as preventing the tendency to cystitis originating in catheterization or otherwise and ileus or irregular habits of bowel movements.

Some precautions are advisable in the early supplanting of the prone by the sitting or upright posture. In the case of abdominal operations the wound is covered with a not too voluminous dressing but one large enough to give even pressure over the abdominal wall when strapped down. Two pieces of adhesive, four inches in width, are applied to keep the dressing in place and together with a snug abdominal binder to prevent undue tension



upon the suture line. The patient is returned to a bed which is raised at the head ten to twenty inches from the floor (Fig. 2), where he lies quietly until well out of the anesthetic. To prevent slipping down in bed, a bolster beneath the thighs and fastened at each end to the head of the bed, together with a suitable box arrangement put at the lower end of the bed for pressure of the feet to be made against, are used. As soon as out of the anesthetic and able to help himself he is permitted with assistance to turn upon his side and induced to move legs, arms, and to breathe deeply, thus assisting oxygenation, the pulmonary circulation, the venous flow to the heart and the more complete emptying of the latter during its systole. The day following operation he reclines in the raised bed upon two or three pillows; the second or third day, according to his feelings, he sits upright; by the fourth the legs are put out of bed and pressure made upon the floor; upon the fifth he can be in a chair and take a few steps; on the sixth strength is rapidly returning and more freedom is permissible. Sex is an unimportant consideration in this treatment and many patients go home upon the sixth or seventh day, and there are few laparotomized individuals, except those cachetic and cancerous or those extremely weakened and emaciated by disease or hemorrhage, who may not leave by the eighth day. With the latter class moreover it is equally important to follow a similar regime, especially as regards avoiding the prone posture if serious complications are to be eliminated.

At the earliest possible moment these patients are fed meat broths, excess of farinaceous food and of milk being prohibited. Drugs are seldom necessary. Rectal saline enemata or the Murphy drop method are extremely serviceable and advisable in a large percentage of all laparotomies. In addition every means is taken to stimulate the cutaneous circulation by bathing, massage and alcohol rubs, thereby toning up the vasomotor mechanism and assisting both venous and arterial flow. Venous stasis in the extremities is prevented in like manner and thereby the accumulation of toxins of a debilitating and paralyzing nature obviated.

The classification of surgical work according to the feasibility of carrying out the after treatment as described leads to a separation of operations into two large classes; the one demanding a short rest in bed on account of weakened wound, peritoneal complications, fever or pain; the other where these indications for rest do not exist or are subordinate to other conditions demanding early rising.

There are few operative procedures longer classed among the former but in general they may be said to be severely infected cases, acute abdominal conditions with pus formation demanding drainage, and some plastic surgery including a few herniotomies. But here also long periods of rest are avoided and the patient is in a reclining position, if not immediately after operation, at an early date.

The second class consists of three subdivisions. A. Those operative procedures which require for the repair of the peritoneum and prevention of excessive adhesions some forty-eight to seventy-two hours of comparative rest, during which passive exercise and moderate voluntary movements are used and thereafter more active ones are positively indicated. In this group are 95 per cent of abdominal operations performed, the remainder belonging to class one. Division B includes those procedures in which the peritoneum, either parietal or visceral, does not enter into consideration, strength of the wound and its proper healing is not endangered, debilitating pain is absent and in which no confinement is required: Here we find nine-tenths and more of the rectal operations for hemorrhoids, fissure, fistula, simple prolapse, many abscesses, malformations, division or divulsion of the sphincter muscle for constipation or painful affection and in fact all other conditions where the patient is not septic nor cachetic and where the operation can be performed in a painless manner, under local anesthesia, as is possible in practically all of these cases. Here also are classed minor operations elsewhere as well as major ones where long anesthesia, pain, and infection are avoidable and the physical and mental condition of the patient does not prohibit his being up and around. In division C are the cases where in spite of the presence of one of the contraindications to this method of post-operative treatment, it is wise to prop the patient up immediately after operation. In the aged and those with emphysema, chronic bronchitis or inefficient respiratory action from any cause, circulatory disturbance or other affection tending toward hypostatic

engorgement in vital organs, it is essential to avoid the prone position.

There are also a number of operations preferably done in two stages, such as certain cases of excision of the rectum for malignancy after preliminary colostomy to divert the fecal current and by observation at the time of the first operation to define the extent of the trouble; pylorectomy with preliminary gastroenterostomy, and others, where rapid convalescence and as little physical impairment as possible demand this more logical method of post-operative treatment.

Hernia in these cases has never occurred in my practice, nor do that I believe it a probability where infection is absent, and nerve injury is avoided. On the other hand simple intermuscular incisions for appendectomy with injury or inflammation of the ileo-hypogastric nerve, which may by communication below make up the larger part of the ileo-inguinal, has led to right inguinal hernia, a circumstance that is not fully appreciated. The relation of the latter nerve to the inguinal canal and its supply to the internal oblique muscle and conjoined tendon (Fig. 1) readily accounts for the sequelæ.

The separation of muscle fibres is not markedly weakening to the abdominal wall, the fibres running parallel and contraction of them tending to increase their coaptation to each other and make more difficult any protrusion between them. Moreover during the past five years the transverse abdominal incision (Pfannenstiel's) has been to a large extent used by me in laparotomies and in the several hundred cases where the belly wall has been thus divided, as far as I can determine, no weakness in it nor hernial protrusion has ensued. It is ideal as regards simplicity, rapidity, strength of repair, absence of blood vessel, nerve and muscle injury, exposure of underlying parts and to a less extent for drainage, when required, and has in short everything to commend it and no very objectionable features.

We can fairly state that operative technic is nearing perfection but pre- and post-operative measures have to some extent been neglected, hindering thereby the attainment of results which should with confidence be expected with our present knowledge and methods.

Finally experience with this form of after treatment convinces me, avoidable and dangerous complications will be, like infection, largely prevented, thereby obviating the dread of necessary operative procedures which now exists in many cases for the conscientious physician, who realizes it is not as frequently the operation *per se* as the sequelæ that are to be feared. In addition much valuable time will be saved your cases, weary confinement to bed avoided, a more satisfactory convalescence obtained and there will exist fewer late results disastrous for the patient and discreditable to surgery.

REPORT OF A CASE OF PURPURA HEMORRHAGICA.*

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WE feel that we must apologize for presenting the record of a case which is in one sense not complete. The fact that no bacteriological examination of the blood of this patient was made, renders the study less satisfactory than it would be with such an examination. The clinical course of the disease and the ultimate outcome, however, are so interesting that we feel it worth while to place the material which we have at our disposal upon record.

Purpura is defined by Sir Stephen Mackenzie as "spontaneous extravasations of blood into the skin, mucous membrances and internal organs of the body, sometimes accompanied by free hemorrhage from mucous surfaces," the term "hemorrhagic" being applied to the more severe and dangerous forms of the disease.

From time to time cases have been reported in the various medical publications both here and abroad, but, unfortunately, few of them include bacteriological examinations and many are mere incomplete summaries. An extensive search through the literature of the past seven years, 1904 to 1910 inclusive, reveals no parallel case to the one here reported.

Considering the disease in the normal sequence of events, we find, under etiology, that there are cases published in which the exciting cause is undoubtedly bacterial, such as streptococcus, bacillus typhosus, bacillus coli[2] and a case reported by Van Sweringen[3] of Ft. Wayne, Ind., in which the condition followed cauterization of the cervix uteri for vomiting of pregnancy, no definite organism being isolated, however, in the blood. There are also cases occurring with malarial infection,[4] with hereditary and acquired syphilis,[5 6] and under medicinal agents from the use or abuse of potassium iodide,[6] benzol[7] and fibrolysin.[8] Moreover contusions in the kidney region[9] and intussusception[10] have been cited as etiological factors. Of course by far the greater number of cases seem to have a clean cut history of rheumatism, or are lacking in history altogether.

The general symptomatology is practically the same and consists of purpuric spots on the skin

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and mucous surfaces, subcutaneous hemorrhages, bleeding from the nose and gums, hematuria, albuminuria, and a varying grade of anemia. A moderate rise of temperature and joint pains are generally present also, but they are not invariably found. The leukocyte count has varied widely, but the tendency has been, in uncomplicated cases, toward a leukopenia, although Hastings's case[14] had marked lymphocytosis, sufficient in fact to have it resemble an acute leukemia. The bacteriology, unfortunately, is sadly deficient, but there have been such organisms as streptococcus, bacillus typhosus, bacillus paratyphosus[1] and bacillus coli[2] found, while many times this work, although carefully and thoroughly carried out, has yielded no result. One case in particular reported by Levison, of Toledo,[15] was certainly studied from this standpoint with great care, but with absolutely negative findings. The coagulation time of the blood has been noted by many observers and generally found slightly increased. The most important associated conditions, many of which can be explained by the nature of the disease, are visceral crises, as reported by Mills, of London,[11] Lemann, of New Orleans,[12] and others; angioneurotic edema,[12 13] hyperpyrexia, delirium, etc.

Treatment has, of course, been directed toward the underlying conditions when they are apparent, with the additional use of calcium chloride, calcium lactate and gelatine—the latter by mouth or in dilute solution hypodermically—to reduce the coagulation time, ergot and its derivatives, adrenalin, etc., for their effect on the vessels, and turpentine in 15 to 20 mm. doses frequently repeated. This last drug seems to have almost a specific action in rheumatic cases, but is generally without effect in those due to other causes. Absolute rest in bed is imperative, and a carefully regulated diet with the use of iron and arsenic after the acute stage of the disease has passed. Unfortunately many of the cases, 25 to 35 per cent., succumb, no matter what the line of treatment pursued, either from the severity of the disease itself, or from some complication arising, of which pneumonia is perhaps the most frequent.

The patient was a white male adult, aged 41 years. He was admitted to The Glen Springs July 6, 1910. He said that he had been sent there for rheumatism. Upon admission he was dyspneic, had a considerable amount of edema of the feet and ankles, and was covered over from head to foot with a hemorrhagic eruption, the lesions of which varied in size from that of the head of a pin to that of a half dollar. This eruption was found on the palms of the hands and the soles of the feet, as well as on other parts of the body, and at first it was thought that the case might be one of secondary syphilis. This possibility was soon disposed of by the absence of lymphatic enlargement and the absence of a chancre. The heart at this time was weak, dilated, and presented the murmur of mitral regurgitation. The blood showed a simple anemia, the hemoglobin and the erythrocytes being reduced about equally, the color index being 0.93. There was a moderate leukopenia with no change in the proportion of the different varieties of leukocytes.

The patient was put to bed and treatment instituted.

Six days after his admission he had a severe pain in the left lower quadrant of the abdomen. The abdomen was distended and tympanitic and we decided that there had been an area of hemorrhage in the wall of the intestine involving the peritoneum. The next day a hemorrhagic lesion developed on the soft palate, which could be very readily seen with the naked eye. Two weeks after admission a temperature of 101.8 degrees was recorded with a pulse of 100 and respirations 24. Examination of the lungs showed numerous areas of coarse rales and the patient was expectorating almost pure blood. At this time the leukocytes had increased to 46,600, with 89 per cent. polymorphonuclear neutrophiles. The coagulation time of the blood taken on this occasion was nine minutes. A blood count made three days after the onset of the hemorrhage in the lungs showed 55,500 leukocytes and 92.2 per cent, polymorphonuclear neutrophiles. At the same time a very large hemorrhage developed in the muscles of the left forearm near the elbow and a second attack of abdominal distention and tympany occurred. Following this attack the patient made a fairly steady improvement, although for forty-eight hours after the rales were discovered in the chest his life was despaired of.

On the 28th of July his condition was satisfactory. About this time the patient passed a large mass of material from the bowel which resembled an organized blood clot in appearance. We accounted for this by assuming that there had been a purpuric spot in the wall of the intestine, that the blood so effused had organized, and the clot had finally sloughed into the intestine and passed away. No microscopic examination of this material was made, however.

Just before the patient left The Glen Springs, he had one or two attacks of severe abdominal pain with acute constipation. Both of these attacks were relieved by cathartics and enemata. Upon physical examination no masses could be felt in the region of the sigmoid flexure of the colon and it was thought that the ulcer left by the sloughing away of the mass of organized blood clot had begun to contract and was producing a benign stricture of the bowel. The patient's friends were warned that should a third attack of acute constipation with pain occur, a surgeon should be consulted and the advisability of an operation be considered for the relief of the stricture.

Toward the end of November, 1910, the patient consulted Dr. George Emerson Brewer, of New York, to whom we are indebted for the

further history of the case. At this time the patient had an attack of temporary colon obstruction and said that such attacks had become more frequent since he was discharged from The Glen Springs, late in September. Dr. Brewer examined the bowel with the sigmoidoscope and verified the existence of an obstruction. He advised immediate operation, but the patient put it off, and when he finally presented himself for operation he had had complete obstruction for several days. The intestines were very much distended and there was an annular constriction in the lower part of the sigmoid flexure of the colon near the floor of the pelvis. This stricture had so reduced the calibre of the intestine that the point of a pencil would hardly pass through it. In addition to this, a loop of the ileum had become involved in the process. There were no involved lymphnodes in the neighborhood. Dr. Brewer resected the colon and the involved loop of the small intestine. The operation was long and difficult. A histological examination showed the stricture to be carcinomatous. The patient lived four or five days and died of septic peritonitis.

The important question to be decided in reviewing this case is whether the purpura which existed at the time the patient was admitted to The Glen Springs in July was dependent on a carcinoma, or whether the carcinoma developed upon the site of an ulcer the result of the sloughing away of an organized blood clot. Unfortunately we cannot tell whether the purpura was the result of a general bacteriemia. One of us (S.) is inclined to the view that this patient had a carcinoma developing in the sigmoid flexure of the colon upon his admission to The Glen Springs in July and that this carcinoma produced alterations in the blood resulting in hemolysis and purpura; the other (DeW.) is of the opinion that the purpura was dependent upon a general infection which probably gained entrance through the tonsil and that the sloughing away of the organized blood clot in July was followed by a benign ulcer in the base of which the carcinoma developed. The absence of a leukocytosis upon admission and the presence of a normal leukocyte formula, would seem to favor the view of developing carcinoma which had not yet ulcerated, and to be opposed to the view of a general septicemia. It would seem that if the condition had been a general septicemia it had existed long enough to have had the primary leukopenia replaced by a reactive leukocystosis. Dr. Brewer thinks that the early symptoms presented by the patient were entirely disconnected from the carcinoma, and says that the history of the attack, as the patient gave it to him, was characteristic of sepsis followed by ulcerative endocarditis with minute emboli which gave rise to the purpuric areas.

The complete history and record of the case, while at the Glen Springs, is as follows:

The patient was a white male, aged 41 years, admitted July 6, 1910.

Chief complaint: Eruption on the body and painful, swollen joints.

Family history: Negative.

Previous history: Measles, chickenpox and whooping cough as a child. The patient had "nervous prostration" at 26 for several months. No injuries or operations. He denied venereal disease.

Habits: He had always been a good eater, no restrictions in diet. He drank one or two cups of coffee daily; a variable quantity of water; whiskey, cocktails, etc., when desired. He gave up all drinking, smoking, and the use of coffee at the time of the nervous breakdown and did not go back to their use until 1905. His bowels were generally regular. He voided large quantities of urine, especially after drinking much water. He slept from six to eight hours a night up to his present illness.

Present illness: On June 17th while the patient was preparing to play tennis he noticed a large, dark red spot above his right ankle with no pain or other subjective symptoms. That night his legs became suddenly swollen, the eruption spread in isolated patches on his arms, legs, and trunk. A few days later he was instructed to rest as much as possible but was not sent to bed. About four days after the onset his ankles became red, glazed, swollen and extremely painful. This condition spread rapidly to the other joints, involving mostly the larger ones. It was generally symmetrical in involvement and with a slight tendency to clear up in one situation when another was affected. The eruption spread rapidly after this time and the patient began to lose weight, but still felt fairly well. After a few days of rest the whole condition seemed so much better that the patient was allowed up and about, but was again put to bed for a recurrence four days before coming to The Glen Springs.

Present Condition: The patient was admitted at noon, being unable to walk from the omnibus to his room. He complained of pain in his feet and legs. The pulse on admission was 102. Both feet and legs up as far as the knees were edematous and the whole body was covered with a purpuric eruption. The individual lesions varied in size from that of the head of a pin to that of a rounded area on the forearm about 5 centimeters in diameter. The lesions were in all stages of development, some just appearing and others upon the point of disappearing, the fresh ones being bright red in color as though blood had just been effused under the skin, while the old ones were copper colored. The eruption was found on the back of the trunk, on both flexor and extensor surfaces of the arms, on the palms of the hands, on both flexor and extensor surfaces of the thighs and legs, on the dorsum of the feet, and on the soles of the feet. The eruption did not itch and there was apparently no desquamation.

An examination of the heart showed a systolic

murmur at the apex transmitted into the axilla, and a weak muscle.

A complete physical examination was not made.

At 3.30 P. M. the patient's temperature was 100.4 degrees and his pulse was 96 per minute.

A blood count made at the time gave the following result: Erythrocytes, 4,428,000; leukocytes, 4,925; ratio, 1—862+; hemoglobin, 79 per cent. (Sahli); color index, 0.93+.

Differential count: Polymorphonuclear neutrophiles, 71.4 per cent.; lymphocytes, 20.2 per cent.; large mononuclears, 4.2 per cent.; transitionals, 3.0 per cent.; eosinophiles, 1.0 per cent.; basophiles, 0.2 per cent.; total, 100 per cent.

The preliminary examination of the urine gave the following result: Pale amber; acid, 1.002; no albumin, no glucose, phosphates present, indican one drop.

July 8, 1910, the patient was somewhat improved.

Physical Examination.—A fairly well developed, white, male adult; apparent age, 50 years. Bald, remaining hair grey.

The legs were edematous all the way to the knees; the hands and forearms were edematous. The eruption described in the notes on admission presented no changes except that some of the older lesions were fading, leaving brownish scars, and there was a fresh eruption over the terminal phalanges of both hands. These areas were rather large and purple in color. Left pupil normal, reacted promptly to light and distance. Right pupil normal, reacted sluggishly to both light and distance; conjunctivæ markedly injected.

Tongue protruded straight, toothmarked at the edges; coated on the dorsum with a yellowish fur. There was a large area on the soft palate due to hemorrhage beneath the mucous membrane. The uvula was edematous and hung low down in the throat. Chest: The chest was large, capacious; intercostal angle obtuse. Respiratory movements normal; percussion note slightly hyperresonant all over the chest. No rales were heard.

Heart: P. M. I. was neither visible nor palpable. Dullness 3d rib, 6th interspace, right edge of sternum, midclavicular line. There was a soft systolic murmur at the apex which was transmitted toward the axilla, but which was not heard at the angle of the scapula. The diastolic sounds were both accentuated. The muscular quality of the systolic sound was deficient.

Abdomen: Abdominal wall about one inch thick. No areas of tenderness, no tumors. Liver dullness extended from the 5th rib to the 7th rib; its edge was distinctly palpable. Splenic dullness was not obtainable; edge not palpable.

Summary: Purpura; dilatation of the heart; mitral regurgitation.

July 12, 1910, in the morning, the patient began to complain of severe pain in the lower left quadrant of the abdomen. The bowels had not moved except with an enema for several days, so Ol. Ricini, one ounce, was given at 4.00 A. M., several small movements resulting before 9.00 A. M. with practically no change in the character of the pain. At 12.15 P. M. the pain was so severe that an ice bag was ordered to the part and morphine sulphate ¼ grain was administered hypodermically. The patient slept fairly well afterward and complained of less pain upon waking.

July 13, 1910. The pain and tenderness were still quite evident but not nearly so severe as on the previous day. There was a slight muscle spasm but no rigidity, distention, or dullness in the flanks. At 7.00 P. M. patient's nose was obstructed by swelling of the mucosa, due to an apparent subcutaneous hemorrhage, and a spray of Dobell's solution and hydrogen peroxide, equal parts, was ordered three times a day. The scrotum was somewhat edematous and the right spermatic cord was enlarged, tortuous, and painful.

July 14, 1910. Severe pain continued in the left lower quadrant of the abdomen and left thigh. Hot saline colon irrigation was given at 9.30 A. M.

July 19, 1910. Blood Count: Leukocytes, 46,600; polymorphonuclear neutrolphiles, 89.0 per cent.; lymphocytes, 6.0 per cent.; large mononuclears, 0.5 per cent.; transitionals, 4.5 per cent.; total, 100.0 per cent. Coagulation time, 9 minutes.

July 21, 1910. At 7.00 A. M. the temperature was 101.8 degrees, pulse 100, respirations 24. Examination of the lungs showed several scattered areas of coarse rales in the interscapular region. The patient was expectorating almost pure blood. A fresh area of induration and hemorrhage in the muscles of the left forearm near the elbow was tender and somewhat soft. The abdomen was markedly distended, tympanitic, and tender in places. In the evening the temperature was 101.4 degrees, pulse 110, respirations 28. The base of the right lung from the 5th interspace down to the costal margin was dull on percussion, and the breath and voice sounds were distant. At the apices of the lungs there were harsh breathing and hyperresonance on percussion.

Dr. Charles G. Stockton, of Buffalo, saw the patient in consultation at 11.00 P. M. At that time the signs mentioned at the base of the right chest were confirmed and a suspicion was entertained of the existence of some pericardial effusion. Dr. Stockton thought that there was reason to suspect the existence of a systolic murmur at the aortic area.

July 22, 1910. Beginning at about 1.00 A. M. 1-100 grain of ergotine citrate and 10 minims of a 1 to 1000 solution of adrenalin chloride were given hypodermically every two hours. The patient had a fairly comfortable night, but the nurse reported that he was apparently gradually sinking. Blood Count: Erythrocytes, 4,928,000, leukocytes, 55,500. Differential Count: Polymorphonuclear neutrophiles, 92.6 per cent.;

lymphocytes, 4.4 per cent.; large mononuclears, 0.8 per cent.; eosinophiles, 0.4 per cent.; basophiles, 0.2 per cent.; transitionals, 1.2 per cent.; stimulation forms, 0.4 per cent.; total, 100.0 per cent. Red blood corpuscles very pale.

July 29, 1910. The patient was steadily improving. There had been no fresh hemorrhages for a week. The patient was clear mentally, very anemic, passing fecal matter involuntarily. His temperature was nearing normal; at 9.45 A. M. it was 98.6 degrees. His pulse beat at about 100 per minute. His respirations varied between 24 and 18.

Pupils were normal, reacted promptly to light and distance; conjunctivæ pale. The tongue deviated somewhat to the left, was clean, moist and red. Mucous membrane of the mouth was pale.

Lungs showed some emphysema at the apices. No rales were heard. At the base of the right lung anteriorly and laterally there were distant breath sounds and decreased vocal resonance. The left lung seemed to be clear.

Heart. P. M. I. was neither visible nor palable. Dullness 4th rib, 5th interspace, midsternal line, midclavicular line. At the apex the systolic sound was impure. No distinct murmur was made out. The sounds at the base presented no murmur. The diastolic sounds were both accentuated. The muscular quality of the systolic sound was fair.

The abdomen was markedly distended and tympanitic all over. It measured 37½ inches in circumference. Liver dullness extended from the 5th interspace to the 6th rib; its edge was not palpable. Splenic dullness obtained at the 10th rib; edge not palpable. Pulse 114, weak, small. Artery not palpable.

That afternoon at 3.30 the patient was put into a wheel chair, taken out to the Roof Garden for three-fourths of an hour. Before he was moved his pulse was 106; after reaching the roof it was 110; on returning to his room, 112.

July 30, 1910: Blood Count: Erythrocytes, 3,920,000; leukocytes, 20,250; hemoglobin, 68 per cent. (Sahli); color index, 0.867. Differential Count: Polymorphonuclear neutrophiles, 79 per cent.; lymphocytes, 12.2 per cent.; large mononuclears, 3.0 per cent.; eosinophiles, 1.4 per cent.; transitionals, 3.8 per cent.; stimulated forms, 0.4 per cent.; total, 100.0 per cent.

One normoblast found in counting 500 leukocytes.

Anisocytosis, poikilocytosis and polychromatophilia not marked. Red blood corpuscles pale and fragile.

August 2, 1910. Blood pressure, recumbent: Systolic, 148; diastolic, 86; mean, 117. Pulse 114, regular, weak.

September 21, 1910: Physical Examination: Chest well formed, intercostal angle obtuse. Respiratory movements limited. On the left side of the vertebral column at the level of the scapula, there were prolonged expiration and increased vocal resonance. In the left axilla the same signs were obtained. At both apices anteriorly there was harsh expiration without rales.

Heart: P. M. I. indistinctly palpable but not visible in the 5th interspace just outside the midclavicular line. Dullness 3d interspace, 5th interspace, midsternal line, just outside the midclavicular line. There was an indistinct systolic murmur at the apex not transmitted. The diastolic sounds were slightly accentuated. The muscular quality of the systolic sound was good.

Abdomen: Abdominal wall ½ inch thick. There was marked tenderness in left lower quadrant and on palpation a cordlike mass was felt in the line of the colon. Liver dullness 5th interspace to the 6th interspace; edge not palpable. Blood pressure, recumbent: Systolic, 128; diastolic, 90; mean, 109. Pulse 86, regular, good strength and volume; artery not palpable.

The patient's heart was irritable and slight exertion sent the pulse rate up to 100.

September 21, 1910. There was a sudden attack at 1.00 P. M. of severe pain in the left side of the abdomen, severe enough to cause the patient to double up in bed. The pain was of a griping nature. No vomiting. Tenderness fairly well marked. At 5.20 P. M. the symptoms were relieved by local applications and calomel internally. The tenderness was still present. His temperature was 99.6 degrees, pulse 98. The abdomen was distended but there was no excessive tympany. There was, however, tenderness in both lower quadrants, tenderness particularly well marked over the line of the descending colon. The tongue was coated. He lay in bed with the left thigh flexed upon the abdomen. There was no nausea and no vomiting. A hot water bottle was applied first, followed by an ice bag, and toward evening the pain was better, but the patient's bowels had not moved in spite of the administration of five grains of calomel and five grains of compound jalap powder.

September 22, 1910, an ounce of saturated solution of magnesium sulphate was given every two hours, but the bowels had not moved at 4.30 P. M. At that time a high enema was given with a fairly good result and the saline was continued with the production of three stools toward night.

At noon the temperature was 100 degrees, pulse 104, respirations 24. There was some distention and some nausea. Fomentations were given after the bowels moved, followed by an enema.

September 23, 1910, the patient was better, but his temperature was still above 100 degrees and there was some slight pain in the abdomen. The patient had had three good bowel movements since the enema and felt more comfortable. Some pain over the entire body. Abdomen still tympanitic. Tenderness over the entire left side of the abdomen. Temperature 100 degrees, pulse 120.

September 30, 1910. *Physical Examination.*—Intercostal angle obtuse. Respiratory movements fair. No impairment of percussion note an-

Date	Total Quantity	Specific Gravity	Albumin	Glucose	Indican	Microscopic
July 8....	2,280cc	1,004	0	0	0	Leukocytes, epithelium, amorphous urates.
11....	5,280cc	1,005	less than 0.025%	0	0	One questionable granular cast, pus, epithelium.
13....	5,740cc	1,005	less than 0.025%	0	0	Epithelium, bacteria.
14....	3,730cc	1,007	0	0	0	Leukocytes, phosphates.
16....	5,050cc	1,008	0	0	0	Leukocytes, epithelium.
18....	370cc	1,019	0	0	gtt. iv.	Hyaline casts, leukocytes, epthelium.
19....	1,200+cc	1,017	0	0	gtt. ii.	Hyaline casts, pus, epithelium in large quantities, bacteria.
20....	1,540cc	1,104	0	0	0	Leukocytes, pus, bacteria.
21....	990cc	1,020	0	0	gtt. i.	Hyaline casts, pus, epithelium, urates, bile present.
22....	500cc	1,018	0	0	gtt. ii.	Ammonio-magnesian phosphate, ammonium urate, bacteria.
23....	930cc	1,018	0	0	gtt. ii.	Ammonio-magnesian phosphate, ammonium urate, bacteria.
25....	3,640cc	1,006	0	0	0	Ammonio-magnesian phosphate, bacteria.
26....	2,850cc	1,009	0	0	0	Leukocytes, ammonio-magnesian phosphate, amorphous phosphates.
27....	4,010cc	1,006	0	0	0	Negative.
29....	2,280cc	1,006	0	0	gtt. i.	Phosphates.
30....	3,200cc	1,005	0	0	gtt. i.	Leukocytes, ammonio-magnesian phosphates, amorphous phosphates, bacteria.
Aug. 1....	3,080cc	1,007	0	0	0	Amorphous phosphates, bacteria.
2....	2,430cc	1,006	0	0	gtt. i.	Epithelium.
4....	2,760cc	1,006	0	0	gtt. i.	Leukocytes, epithelium, bacteria, amorphous phosphates.
8....	3,290cc	1,006	0	0	gtt. i.	Negative.
15....	2,160cc	1,008	0	0	0	Leukocytes, ammonio-magnesian phosphate, bacteria, spermatozoa.
19....	2,520cc	1,006	0	0	gtt. i.	Ammonio-magnesian phosphate, amorphous phosphates.
23....	3,910cc	1,008	0	0	0	Leukocytes, amorphous phosphates.
29....	1,950cc	1,011	0	0	gtt. i.	Hyaline casts, calcium oxalate, amorphous phosphates, bacteria.
Sept. 2....	3,260cc	1,012	0	0	gtt. i.	Leukocytes, bacteria, spermatozoa.
9....	3,720cc	1,004	0	0	0	Negative.
15....	2.430cc	1,106	0	0	0	Epithelium, amorphous phosphates, bacteria.

teriorly or posteriorly. Normal vesicular respiration. No rales. Vocal resonance good everywhere.

Heart: P. M. I. visible and questionably palpable in the 5th interspace just outside the midclavicular line. Dullness 3d rib, 5th interspace, midsternal line, just outside the midclavicular line. There was a soft, almost inaudible, murmur at the apex. The second aortic sound was accentuated. There was a systolic murmur at the second left intercostal space. The sounds were of good quality, occasionally skipping a beat, about one miss in fifteen.

Abdomen: Wall about ¾ inch thick. No fluid made out. In the left lower quadrant there was an indistinct mass, apparently thickened bowel. There was very little tenderness in this region, no tenderness elsewhere. A slight amount of tympany was present over the entire abdomen, but less than on former examinations. No edema anywhere. Liver dullness extended from the 5th rib to the costal border; edge slightly palpable. Splenic dullness from the 10th to the 12th rib; edge not palpable. Blood pressure, recumbent: Systolic, 146; diastolic, 90; mean, 118. Pulse 88, occasionally skipping a beat, good strength and volume; tension slightly plus.

Weight, 151 pounds.

October 1, 1910. Patient discharged from The Glen Springs.

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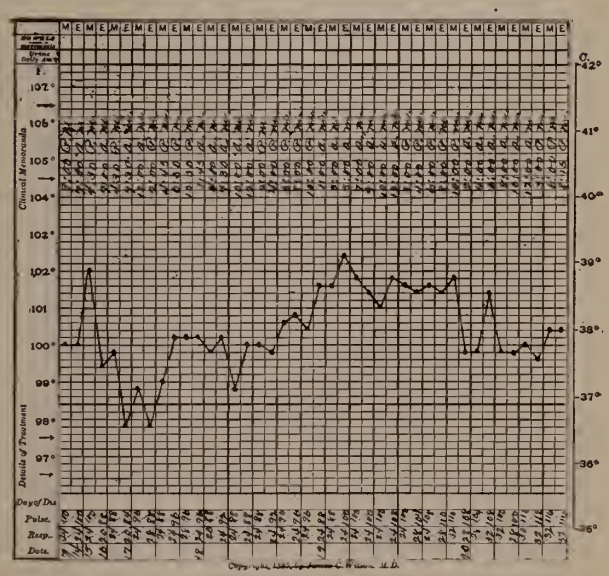

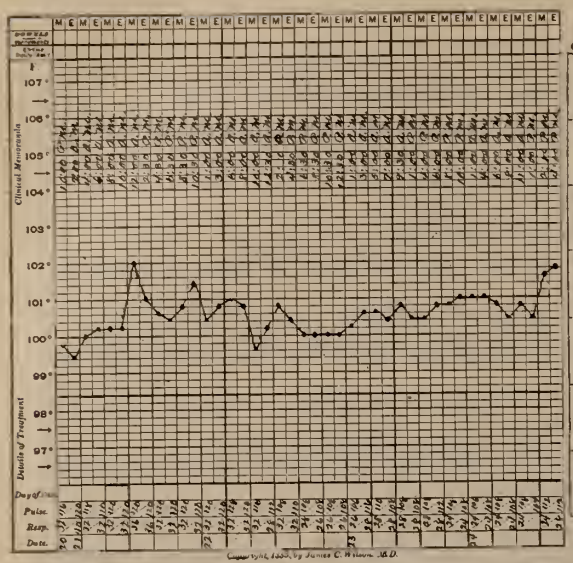
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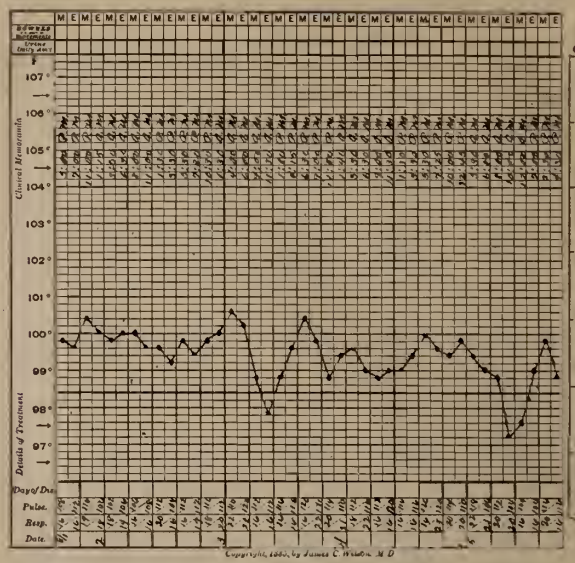
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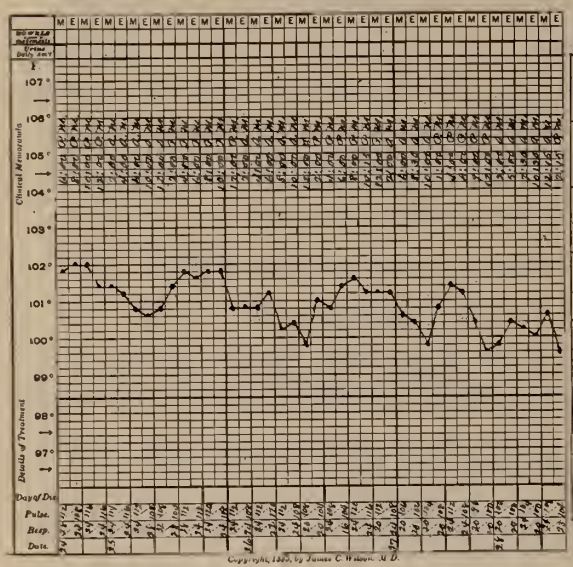
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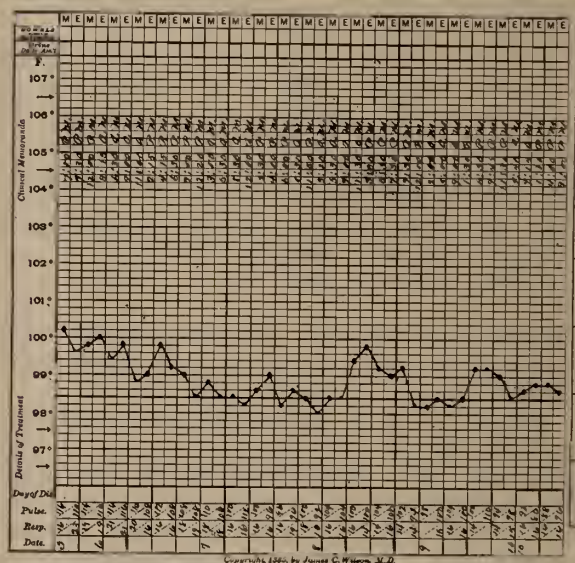
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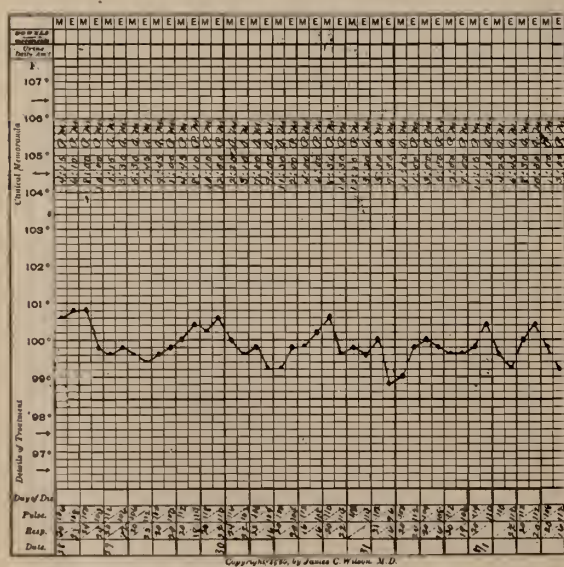
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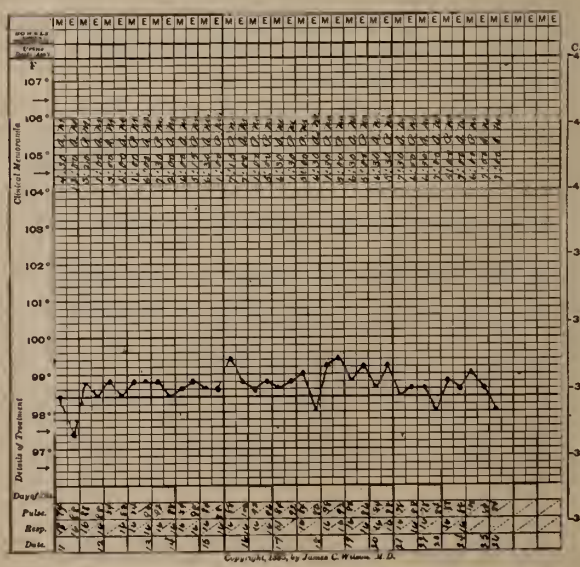
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THE DIAGNOSIS OF FRACTURES OF THE HIP.*

By C. H. BALDWIN, M.D.,
UTICA, N. Y.

THE past few years have seen a renewed interest taken in the matter of fractures of the hip. A large volume of literature has appeared, but practically all of this is consumed in advocating or criticising various new methods of treatment, and little space is devoted to the matter of diagnosis. Yet if one reviews case histories given in connection with these articles it is surprising to note the number of cases in which an incorrect diagnosis has been made. This is especially true where fracture exists in children. Most frequently these patients reach a hospital at some subsequent period with a diagnosis of tubercular coxitis. It does not therefore seem superfluous to occasionally call attention to some well known facts the application of which would materially lessen the number of these unrecognized cases.

The more common use of the Röntgen ray and careful observation on the part of surgeons have shown that fractures of the hip are by no means largely confined to the aged, nor are they extremely rare in children and young adults. The Röntgen ray has also demonstrated the existence of fracture in many instances where it was unsuspected. In the light of these facts it becomes necessary to bear constantly in mind that fracture of the hip may occur as the result of direct or indirect injury at any age.

Aside from the introduction of the x-ray nothing new has been offered in the way of diagnosis. The symptoms subjective, objective and differential are to be found in any standard textbook. The x-ray has cleared and amplified our knowledge as to the nature of fractures. It is an invaluable aid in their detection and a source from which we may learn much as to the efficacy of various methods of reduction and fixation, but it does not, or at least should not, take the place of careful clinical observation. As Dr. Richard Harte, in his presidential address to the American Surgical Association has lately said: "It would appear to the careful observer that the surgeon of today depends too much on laboratory findings and that a careful clinical study of the aspects of a case is too frequently neglected." It is to this aspect that I would call your attention.

The clinical picture attending these fractures varies over a considerable range, and is dependent on the nature of the fracture. For example, complete disability, with marked eversion, shortening, elevation of the trochanter and crepitus characterizes only one variety; namely, complete fracture of the femoral neck. In classifying and describing these fractures too much attention has been given to the exact location of the line of fracture and too little to the nature of the fracture. As Woolsey has said: "An exact diagnosis in all cases between intracapsular and extracapsular fractures is both impossible and useless." Many fractures starting as extracapsular are intracapsular as well, and vice versa. If a fracture is complete it will give rise to one set of symptoms and these may, and usually do, differ quite materially than if the fracture is impacted or of the "green stick" variety. For this reason alone it is better to classify these fractures as complete, impacted or incomplete. Moreover, by such a classification symptoms are more readily understood and more easily remembered. Whitman, for a number of years has again and again called attention to the relative frequency of fractures of the hip in children. These fractures are today more often missed than recognized because we are apt to cling to our old ideas as to the nature of hip fractures and fail to note existing physical signs, or, noting them, place a different interpretation on them at one age than we do at another. If at seventy, complete disability, eversion, shortening, etc., means a fractured hip, the same symptoms at twelve mean the same thing, but if at twelve, following injury, disability is not complete and there is little or no eversion. and joint motions are only moderately disturbed, but the trochanter is found well above Nelaton's line, and its position is higher on the injured side, by Bryant's measurements, than it is on the sound side, we

* Read at the annual meeting of the Fifth District Branch of the Medical Society of the State of New York, at Utica, October 5, 1911.

are dealing not with strain but still with a fracture. Why the difference in symptoms? One is complete and the other is but partial.

I have cited these two conditions in order to show the necessity of obtaining a careful history and of making a complete routine physical examination in all injuries about the hip.

In making a diagnosis of fracture of the hip, more can be learned from a carefully-taken history, observation, palpation, measurements, and lastly, gentle manipulation, than from careless manipulations and an endeavor to "feel" a fracture and elicit crepitus.

The ordinary signs of fracture on which we place so much dependence in regions where the bones are more superficial; namely, ecchymosis, swellings, localized tenderness and crepitus, are less essential in diagnosing fracture of the hip. They may be present, if so, furnishing additional aid in diagnosis. But the mainstays to which we should pin our faith are interference with function and changes in the surface anatomy. The amount of disability, the existence or absence of shortening, the position of the leg, the amount of voluntary motion and the position of the great trochanter are the points to be especially noted.

In examining a hip either for fracture, dislocation or disease, much misleading information will be obtained unless the position of the pelvis be carefully noted, and unless measurements of corresponding areas be made, with the legs in symetrical position with regard to the pelvis and to each other. Points which are to be utilized should be clearly marked before measurements are begun. At best there is a noticeable degree of error in any system of measurements thus far devised. Furthermore, a physiological difference from one-fourth to one-half inch in the total length of the legs is not extremely uncommon, and differences up to an inch have been noted. An instance in which there was three-fourths of an inch, with no history of injury or evidence of any disturbance has come under my personal observation. Shortening of the whole extremity is of value in determining the presence of fracture when combined with other symptoms, but alone, too much dependence is not to be placed upon it.

In every fracture in which there has been any displacement, the position of the great trochanter is altered, and it may be said here that unless there is some displacement a positive diagnosis of fracture can be made only by means of the Röntgen ray. The position of this bony landmark, when compared with its fellow of the opposite side, is the most dependable, single symptom. If following injury the trochanter on one side appears above Nelaton's line, and if the distance from its top to a line dropped perpendicularly to the table from the anterior superior spine (Bryant's Δ), is less on the injured side than a corresponding measurement taken on the other side, it is pretty certain that either a fracture or a dislocation exists.

The x-ray should be employed in all injuries about the hip unless from the symptoms and physical signs we are sure without reasonable doubt that no change in the contour of the bone exists. We may not be able to carry about x-ray apparatus suitable for making skiagraphs of hips, but we can carry a tape measure, and by this, by our powers of observation, and by our fingers, satisfy ourselves whether or not it would be wise to convey a patient to an x-ray machine.

To lightly pass over injuries of the hip is a grave mistake, and it falls in the province of the general practitioner as well as in that of the surgeon to familiarize himself with the surface anatomy of the hip, and to understand that unless a physical examination of this region be accurately made, the data obtained will be little better than useless.

THE TREATMENT OF FRACTURES IN AND ABOUT THE NECK OF THE THIGH BONE.*

By DR. D. M. TOTMAN,

SYRACUSE, N. Y.

THE diagnosis of a fracture in and about the neck of the thigh bone having been made, the question of treatment arises at once, and at this point there is a distinct line of demarcation between the science and the art of surgery. The individual must rely entirely upon his experience, skill and knowledge. The general essentials of treatment are fairly well known. The *essential details* of the care of these injuries are not so well known, and I am often called in consultation where the attending physician is utterly bewildered by the problems confronting him.

My first step in the care of these cases is to obtain immediately a proper bed. This generally in a city can be found in a furniture store or at one of the hospitals, a regular hospital bed, narrow, well made, high and fitted with a proper mattress and springs. The common wire springs are wholly unsuitable and are not to be used. If I am compelled to use them I obtain a fracture board and place this upon the springs and then put a set of springs over the board so that there shall be an air space between the mattress and the board. If this is not done, the perspiration will gradually soak into the mattress and it will soon become foul and mouldy. Up to this time I have generally left the patient where I found him, simply making him comfortable. If I have been fortunate in having a surgically trained nurse, she will fix the bed with well fitting sheets and a draw sheet. The patient is then carefully transferred to the bed and placed in the most

* Read at the annual meeting of the Fifth District Branch of the Medical Society of the State of New York, at Utica, October 5, 1911.

favorable position in the house with the face shielded from any bright light. The leg is then carefully shaved, if it is necessary, and a Bucks extension is then applied. A strip of rubber Z. O. plaster of proper length is cut and a hole placed in the center to pass the cord which is attached to the foot piece which is carefully made of proper width and length. If too long, it will interfere with the bandage and if too short, the side straps of plaster will cut into the ankle. The plaster is then applied, reaching four to five inches above the knee, and additional short pieces are attached to the upper part at about an angle of 15 to 20 degrees. This is to increase the surface of the pull. The plaster is securely bound to the leg and thigh with a cheap, slazy, shaker flannel bandage. A gauze bandage is never used for this purpose. This bandage is applied for security and permanence. Some common cotton batting is placed over each malleolus and the bandage starts just above the cotton or just above the malleoli. The foot of the bed is raised about six inches on special blocks with a firm, large base. On the top of the blocks, sufficiently large holes are bored to receive the casters of the bed legs. These are often removed, if possible. An upright with a pulley properly adjusted is fastened firmly to the floor and is distinct and free from the bed. I have never been accustomed to tie a loose pulley to the bed. The weights are then attached to the cord running over the pulley. The amount of the weights being sufficient to nearly correct any shortening which may exist. Sometimes two or three days are required to reduce all of the shortening. Careful judgment has to be employed here, as some of the shortening may be due to an impaction of the fracture. Anything which will break up this shortening would be a serious mistake.

The control of the eversion of the foot is not an easy matter. I employ the following method: A medium sized pillow is thinned out along one of its edges and this thin edge is slipped under the limb reaching nearly down to the heel. The inner edge is then securely pinned to the bandage from the heel up above the knee. The pillow is then rolled firmly from the outer edge, four hands being employed. When this has been rolled firmly against the limb, the edge of the roll is securely pinned to the bandage. A firm roller bandage four or five inches wide is put around the pillow and limb. If the pillow is nicely adjusted, the heel will be raised a little and this will prevent a pressure slough on the heel. A firm, small pillow is placed under the knee in the popliteal space. This is securely fastened to the pillow; if left loose, it will always be displaced. With the weight acting for weeks with the popliteal space dropping down, the knee will become swollen and painful and a condition of stiffness will develop which will cause trouble for months. If all this has been skillfully done, no change will be necessary during the entire care of the case. One thing I never lose sight of and that is the prevention of bed sores. The nurse is instructed to keep the back and buttocks scrupulously dry and clean and to bathe these parts twice daily with diluted alcohol and if a bed sore does get started to let it go no farther. I never fail to keep close watch of all this myself.

If the patient suffers from shock, this is necessarily cared for. It is exceedingly common for the patient to become delirious at about the end of the first week. This is treated only with mild sedative remedies, such as the tincture of hyoscyamus with the lighter bromides and these are to be given at night only. If a tendency to lung congestion comes on, I raise the head and shoulders of the patient up on pillows. If it continues, I take out the blocks and put the bed level. Digitalis in small doses does well for these cases. In extreme old age, I have treated the case without any contension or splint of any kind, sitting the patient up early and even taking them out of bed into a reclining chair. For the first week or two, I make two visits daily, the last late in the evening. I always visit the case daily for four or five weeks. I know of no other injury that requires more faithful and persistent care. Personal observation is absolutely necessary. Long experience with internes in our hospitals and with the best trained nurses convinces me that they cannot be trusted to look after the many little details which are so essential in carrying these cases through successfully. The proper handling of these cases looking to the future always necessitates a full and frank understanding with both the patients and the friends. I say to them that the great majority of my patients are always lame and many have always to use either a crutch or a cane. That many of the fractures in and about the neck of the thigh bone do not unite with bony union, but by ligament, and I carefully explain what this means, and I always tell them that there will be more or less shortening of the limb. While treating upon this subject before my students, I read the following extract from Sir Astley Cooper's Fractures and Dislocations:—

It is asserted by some surgeons that these fractures unite like those occurring in other bones of the body; but from the numerous dissections which I have had the opportunity of performing in these cases, I firmly believe that, as a general rule, the transverse fracture of the cervix within the capsule does not unite by bone. Such is the opinion I have delivered in my lectures for these thirty years, and which has been from year to year strengthened by further observations and fresh dissections. This is a most essential point, as it affects in a material degree, the character of the surgeon. I was called to a case of this kind, in which the medical attendant had been promising, week after week, a union of the fracture, and the restoration of a sound and useful limb. After many weeks, the patient became anxious for further advice. I did all in my

power to lessen the erroneous impression which had been made by telling the patient she might ultimately walk, although with some lameness. And, taking the surgeon into another room, I asked him on what grounds he was led to suppose there would be union; to which he replied, he was not aware that the fracture of the neck of the thigh bone would not unite like those of other bones of the body. The case proved unfortunate for his character, as this patient did not recover in the usual degree.

About four years ago, on a February 5th, I was called to see Miss T., aged 62 years. I found that some forty-five days preceding my visit, she had been knocked down by an express wagon while she was crossing a street. She was carried into a nearby drug store where she was attended by a physician and then sent to her home. Just how it happened, I do not know, but the attending physician was discharged. Some meddling friends had convinced the patient that she was suffering with only a bruise of the hip and an osteopath was called on the ground that he could take care of a bruise of the hip better than a physician. The patient told me that when the osteopath began, as he did, immediately, manipulating the limb, she cried out with the pain and said, "Oh, Doctor, I feel something grating," and he replied, "So do I and I will show you why." At that he put his fist, doubled up, into the palm of his other hand and rotating it, said "That's the anatomy of it." This manipulation was kept up for a period of nearly six weeks. You can well understand that the further history of this case has been a very unfortunate one. Neuritis of the limb developed with subsequent gangrene of some of the toes of the foot and she is still a sufferer and is wholly crippled, being still carried around in a wheel chair.

I have never had any experience in the treatment of this injury by placing the limb in full abduction. This treatment has never appealed to me, yet there may be something in it. The results of this treatment can only be given by those who have employed the method.

In conclusion, the carrying out of the details which have been given above have uniformly given me satisfaction and I commend the matter to you.

SOME CONDITIONS SIMULATING DISEASE OF THE HIP OR SPINE.*

By PRESCOTT LE BRETON, M.D.,
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A SUBJECT which has always been of interest and has always called for general comment is that of referred pain, because of the probability of mistakes in diagnosis. I mean conditions in which the lesion is situated at a distance from the point where the patient locates his symptoms. For example, a decayed tooth may indicate its presence by an earache, a pleurisy may simulate an attack of appendicitis, or a tumor of the pancreas may cause such symptoms as to direct attention to the gall bladder. Either directly through the nervous system or indirectly by reason of the proximity of the lesion to certain neighboring muscles or organs, suspicion is at first directed away from the location of the trouble. All medical students are warned about the pains referred to a distance, when the spinal column is affected, but not a few of them, later on, find out to their discomfort that they have overlooked a Pott's disease because the patient located his symptoms at a distance from the spine. In this paper I intend to relate the histories of some cases which were very interesting from the standpoint of diagnosis. Cases in which the attending physicians suspected disease of the spine or hip because of symptoms referred there, while the further course in each case demonstrated the trouble lay elsewhere. The first two cases, simulating hip disease, were of abscess following trauma, one located along the psoas muscle in front of the lumbar spine, and the other back of the left kidney. Of the remaining five cases, all simulating disease of the spine, the first was a case of retroperitoneal carcinoma, and the remaining four cases of tuberculosis, one a tuberculous kidney, another a cold abscess near the kidney, another in which the exact site of the lesion was not determined, and the last a case of tuberculosis of the appendix, complicated by tuberculous endometritis. These cases point out the fact that there is a variety of conditions which may give rise to spinal or hip symptoms; such symptoms being pain, muscular spasm, deformity or loss of motion.

Case Histories.

Case 1.—Boy, aged 11. Three weeks before examination, this boy had been struck by a baseball in the right flank. He was in bed for several days, and since then had had pain and increasing limp. His physician suspected hip disease because of the limp and muscle spasm. The thigh was held in flexion and outward rotation, but on examination it was found that after flexing the thigh to a right angle hip motions were free. There was also spasm of the abdominal muscles and erector spinæ, causing a postural lateral curvature, convexity to the left. Temperature 103. No definite tenderness. He was sent to the General Hospital and traction applied to the leg in the line of deformity. There was immediate improvement in all symptoms except that of psoas contraction. Weeks later the temperature rose again for a few days and tenderness was found in the right ilio-costal space. Three weeks later there was a repetition of fever, pain, and spasm for a few days, and three weeks after that a recurrence, with a leucocytosis of

* Read at a meeting of the Buffalo Academy of Medicine, October 3, 1911.

19000. The X-ray was not positive as to any spinal lesion and varied opinions were given as to the location of the focus. On account of the point tenderness in the flank, an incision was made there by Dr. McGuire and blunt dissection soon found two ounces of thick pus over the psoas beside the lumbar spine. The culture showed staphylococcus pyogenes aureus. Recovery was prompt.

Case 2, similar to case 1.—Boy, aged 8. Two months before there had been some injury from making a high jump. This had been followed by pain, limp and fever. On account of the increasing limp and the flexion and rotation of the left leg, his physician had diagnosed an acute hip condition. On examination there was found some fulness and tenderness in the left ilio-costal space, but the hip was free after flexion of the thigh. Leucocytosis 17000. Dr. Eugene Smith made an incision below the ribs, opened the lumbar fascia, and found pus by the needle high up back of the kidney. Drainage brought about a prompt cure.

Case 3.—Man, aged 52. Two injuries of the spine had been sustained. The first, 13 years before, when he was thrown from a carriage and struck on his back. Recovery in two weeks. The second two years before, when he was dragged by a horse over the ground for a block. Many contusions were received but he did not stop work. His recent history was one of pain in the back for several months, continuous pain with sharp severe attacks daily, bilateral and simulating root pains. Some loss of weight and occasional attacks of vomiting. Examination showed a flat back, with considerable rigidity; spasm of the back and abdominal muscles. Diagnosis in doubt. A plaster jacket was applied and some relief given. Following several attacks of vomiting and diarrhœa a new jacket was made as the first became too loose. Renewed pain, attacks of vomiting and rapid loss of flesh suggested a new growth. As the epigastrium on palpation felt abnormal, Dr. Fredericks opened the abdomen and found extensive retroperitoneal carcinoma. Death followed in a few weeks.

Case 4.—Woman, aged 24, large and well nourished. Family and personal history good. Seven months before she had given birth to a seven month baby, which died at once. Her convalescence was normal and the catheter was not used. She had complained of pain in the right side ever since. During the past month thigh flexion and limp had appeared and various diagnoses had been made. On examination there were found flexion and adduction of the right thigh; side bending of the spine limited and painful; tenderness over right abdomen and over the whole of the right sciatic nerve. It was suggested that a few days' rest in bed might be of value before another examination. Three days later all the spasm had disappeared and a tumor of the right kidney could be palpated. The urine was loaded with pus and catheterization of the right ureter found pus coming from the kidney. As the temperature and white blood count were normal, a probable diagnosis of tuberculous kidney was made. Operation was refused and the patient was lost sight of.

Case 5.—Man, aged 32. Ten months before a heavy block of wood had struck his left side. After two weeks in bed he returned to work but suffered continually from soreness and pain. Later there was some bladder disturbance and weakness of the left leg and he was compelled to give up work. On account of his posture and his spinal symptoms he was sent to the writer. He stood, leaning on his right leg, with a tilt forward and to the right. The back was flat, motions limited and painful, and the left erector spinæ tense and prominent. The left leg motions were weak, the knee jerk less than the right and sensation dulled. A tender mass could be defined below the twelfth rib and the X-ray showed in that location a thickened area as of abscess. He returned to his home for operation.

Case 6.—Man, aged 31. One uncle had died of tuberculosis. Personal history, good. For six years this man had had pain in the lower back running down the left side. Six months before had been compelled to stop work by the increasing pain and an operation on his left kidney performed, but no stone found. It was then decided that his spine was at fault. Examination showed a weak looking man of typical tubercular appearance. There had been twenty pounds loss in weight. The dorsal curve was exaggerated but there was no kyphosis and no spasm. Side bending caused pain and there was tenderness over the lumbar region. No exact diagnosis was made but a jacket was made for him and he was sent back to the country for rest and general treatment. He slowly grew worse and died about two years later.

Case 7—Girl, aged 20. Occupation, seamstress. Family history full of tuberculosis. Personal history good. Two years before she began to have backache in the lumbar region and later aching pains down the thighs. The pain increased and widespread spasm of many muscle groups began. For one month before examination she had been walking on her toes. In fact, her walk was an extraordinary spectacle, with body tilted backward, lumbar lordosis increased and a staggering gait with heels off the floor. Marked hysteria was evident, induced by her illness. The pharynx was anæsthetic and the skin hyperæsthetic all over the back and down the legs. Many muscles contracted on slight stimulation. There was no evidence of Pott's disease and the X-ray was negative. A jacket was furnished and gave great relief, as her pain diminished and she could walk on the soles of her feet. Six months later her right thigh drew up

in flexion and adduction, the spasm being very strong, but under suggestion the leg could be drawn over in the opposite direction. Temperature at this time slightly above normal but general examination negative. She again improved but some months later had an attack of appendicitis. Dr. Meyer operated and found the appendix tied down in front of the spinal column. He also curetted on account of leucorrhœa. Dr. Bentz found the appendix and the scrapings full of giant cells and tubercular infiltration. Since her operation she has gained in weight and strength.

INFLUENZAL ARTHRITIS.*

By J. P. CREVELING, M.D.,
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DURING the first epidemic of influenza or, the one that occurred in the winter of 1889 and '90, I saw a number of cases accompanied late in the disease or soon followed by painful and swollen joints.

This condition varied in severity from slight pain upon motion, to the severe distension pain of acute joint inflammation, with more or less fixation. In some cases the whole articular structure seemed involved, while in others it appeared confined to the synovial fabric.

It will be remembered by many of you that that epidemic was not only the most general but also the most severe, probably, this country has ever experienced.

It presented more toxic features, and was followed by more pathologic sequelæ, as lesions of the breathing apparatus, digestive tract, urinary organs, those of the nervous system, and the articulations were not entirely exempt.

In fact in some instances there were no tissue or structure that did not feel the impression of the disease and suffer, in the ratio it bore in resistance, to the remainder of the organism.

During the earlier part of the epidemic the force of the disease was more confined to the air passages, but later frequently involved the other mucous, serous and even the cutaneous surfaces.

The joints, probably, was one of the structures least frequently attacked, and offered more resistance to the inroad of the disease than most other parts.

All the cases that came under my observation recovered without suppuration or permanent impairment of function, but, that all cases do not terminate so fortunately the ones I am about to report will attest.

From observation I am of the opinion that the disease in symptoms and course is very similar to the arthritis due to scarlet fever and the other infectious disorders, but possibly not as severe, as a rule, as that from gonorrhea.

Some five years ago a man, aged 32 years, applied to me for treatment for a sore knee. He stated he had had the grippe 8 months before, that it was at first confined to the throat and lungs, that he coughed hard, and the doctor feared he would develop pneumonia, but that the cough ceased and the disease settled in his knee.

The knee was swollen, painful, and sore, and as the acuteness of the attack began to disappear he commenced to walk with care, but that the knee had never resumed its normal size nor been free from pain and soreness.

It was a well marked case of arthritis with thickening of all the articular structure. He had not had rheumatism, gout, or any infectious disease except the influenza mentioned, nor had he been injured.

In 1908 I saw in consultation, a country girl, 15 years old, in an acute attack of arthritis engaging the right wrist. She was just recovering from a run of influenza which, I believe, had been quite severe.

The joint affection had existed about one week and been regarded as rheumatism, so that she had received liberal treatment for a complication of that nature.

On the dorsum of the wrist was a circumscribed red area that to the touch conveyed the impression of confined pus. An incision was made and a couple of drachms of that fluid escaped.

This was the first case in which I had seen the formation of pus. She made a good recovery, but motion at the wrist was somewhat restricted for some time. There is, I believe, some little thickening yet remaining at the joint.

She gave a negative history to all other infection. The general attack had been accompanied by digestive disturbance with obstinate intestinal fermentation.

The last case I wish to mention is the one that prompts the reading of this paper. It is one that shows the activity of the infection under conditions favorable to its development, without material intervention to stay its progress.

At first I was inclined to doubt the cause of the disease, but after repeated effort was unable to elicit any evidence of other origin.

There were no indications of tuberculosis, rheumatism or gout; no vaginal discharge or increased secretion about the vulva; no soreness or swelling, no pain at micturation or bladder disturbance, no disease whatever of the genito-urinary organs.

The respiratory apparatus had been normal, including the mouth, tongue, lips, nose and throat, and all are in good condition at the present time. In fact, she states she was perfectly well before contracting the attack of influenza.

She is a woman 26 years old, and had been a widow for 3 years. She gave birth to a healthy child 5 years ago. She assures me she has had no

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* Read at the annual meeting of the Seventh District Branch of the Medical Society of the State of New York, at Rochester, October 19, 1911.

sexual relations during the past 3 years, and that menstruation had been regular and normal until March last, some 2 months after the attack of influenza began, when it ceased, to reappear in July.

The attack of influenza developed on the 11th day of January last with chills, fever, general ache, pain, cough, headache, thin fluid discharge from eyes and nose, furred tongue, pain in the joints and back and all the symptoms of an acute attack of the disease.

In about a week the more severe conditions disappeared and she was able to get out for some 3 or 4 days, when the right ankle became painful and swollen, and also pain at both shoulder articulations.

In 3 days later swelling and pain were located at the right elbow. In a few days the shoulder pain passed away without leaving any trace of its presence.

The trouble at the ankle and elbow both increased and continued to become worse and, in about 4 weeks the formation of pus, I am told, was evident.

This was allowed to pursue its course and it was 10 and 12 weeks from the time the swelling first appeared at the ankle before spontaneous rupture through the skin took place and the pus discharged.

By this time the joint was fixed and extensive structural changes had taken place. As far as I know there had been no effort made to reestablish motion.

The heel was drawn upward with the foot extended so that the dorsum was on a line with the crest of the tibia, the toes pointing directly downward.

At the elbow an abscess had also formed which had been poulticed and ruptured sooner, but left the arm stiff, not only at the elbow, but the wrist and fingers as well. During this 3 months she was confined in a hospital in a neighboring city.

In July she returned to Auburn and passed to the care of Dr. F. E. O'Brien, who kindly referred her to me for operative work. At this time the ankle was enlarged and perfectly fixed, no motion whatever could be obtained, even when under the full influence of chloroform.

A vertical incision was made on either side of the leg, crossing the ankle joint, and the dissection carried sufficiently far to fully expose the articulation. The ligaments but little thickened were tense, hard and firmly bound together.

The tibio-fibular, astragalo-tibial, navicular, and calcaneo-astragaloid articulations were held by bony ankylosis. The upper surface of the astragalus was necrotic.

The diseased bone was removed, which included a small fragment of the calcaneum, and the ends of the malleoli was cut off so as to fit the new condition of the joint.

The tendo Achillis, which was much contracted, was divided by flap and the ends united. After releasing the articulations the foot was brought forward and retained in a normal position. The synovial membrane seemed rather thick and smooth, and the bone lesion appeared to be quiescent.

For reason not connected with the previous operation the elbow was not operated upon until the 25th of September. The general condition of the joint was much as described at the ankle.

There was bony union between the radius and ulna, and between the ulna and humerus. The adventitious bony deposit was removed and the end of the olecranon process cut off, which gave free motion at the joint. There was no disease of either bone entering in the articulation.

As I have not seen this subject brought to the attention of the profession before and, as the lesions in this last case were so extensive, I trust you will pardon me for again stating there is no history of gonorrhea, syphilis, or any other infectious disease or foci in the respiratory organs or elsewhere, no rheumatism or gout, none of tuberculosis.

That the synovial membrane contained no tubercle, there was no exudate within the joint cavity, no caseous degeneration, general infiltration and granulation tissue moderate in amount, the astragalus was the only bone of any lesion and was probably the cite of the infection; there was no destructive changes in the cartilages; that the abscess developed very soon after the first indication of the joint disease, and further, the articular lesions would have been much less had the pus been evacuated earlier.

The effort at repair, also, seemed more of a true regenerative process than that usual in tuberculosis. The microscopic work was done with too much haste to be of value.

It must be well known, however, by you gentlemen of experience, that the coccus of gonorrhea or the bacillus of tuberculosis may not be easy of demonstration in such lesions by the microscope.

THE PHYSICIAN AND THE OPTICIAN.*

By EMERSON W. AYARS, M.D.,

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ONE of the important points at which the practice of medicine is appropriated by purely commercial interests is the prescribing of lenses for defective vision.

That imperfect vision may be due to many causes beside corneal irregularities, and inefficiency of the ocular muscles, and is interwoven with the general symtomatology of organic lesions in distant parts of the body, sounds like a platitude before a medical society, but many physicians do not give the eye and its diseases the consideration they should, in relation to general medicine. If we fail to get the true

* Read at the annual meeting of the Eighth District Branch of the Medical Society of the State of New York, September 27, 1911.

perspective, how is the ordinary layman to avoid error?

If imperfect vision be essentially a disease, then the application of remedies must come within the realm of therapeutics, or plain everyday practice of medicine, requiring a general medical training as a foundation for this particular branch of medicine, whether the remedy be surgical procedures, instillation of drops, the use of washes, or the adjusting of lenses. One intelligent layman asked a friend if he would send for a carpenter to mend a broken leg. "No," was the reply. "Then," said he, "neither do you want a jeweler to work at your eyes."

We find this branch of medical practice being attempted by persons with no medical training whatever, to a great extent, instead of being in qualified hands, as it should be. They carry on the business as a trade, over the counter. They have styled themselves opticians, which term has led many people to believe that the tradesman knows more than the doctor. However, since the term "optician", meaning a maker of optical instruments, is rather a thin veil for the real nature of the business, another Greek derivative has been made use of, and our tradesman is now an "optometrist". It is to be presumed that this newer word will add dignity to the business!

Let us consider for a moment how the "*maker of optical instruments*" came to be prescribing lenses, and then see what is to be done about it.

This class of persons became prominent about the same time that the great wave of therapeutic nihilism swept over the American medical profession, and is, perhaps, one of its logical results.

The use of incandescent lights, the rapid increase in the number of books and periodicals, as well as the multitude of occupations made possible by improved artificial lighting, has brought out defects in the human eye that, under former conditions would have been unrecognized, since they caused no great inconvenience.

These sufferers must have relief. Two decades ago a qualified ophthalmologist was almost unknown in the smaller cities and larger villages, and the country doctor had neglected the diseases of the eye, because of the supposed difficulties in acquiring a working knowledge of the same, and because the small community could not support eye specialists. They often failed to recognize that there was trouble with the eye, except in gross lesions, and to advise a visit to the oculist.

A general knowledge that many of these troubles might be relieved by the use of glasses having become disseminated among the laity, and the constantly increasing visual deficiencies, completed the conditions that would best foster the business of prescribing lenses by tradesmen, and so we have this important branch of medicine drifting into the hands of non-professional people, including jewelers and peddlers. When the public needs or wants an article, whoever offers it for sale will be patronized. Glasses could not be secured through the medical man. The tradesman had the goods and soon developed into a skillful salesman, by offering free examination, which satisfied many of the prospective customers that they were receiving a sort of professional service that must have some value, and it also seemed to serve as an anæsthetic upon the half sleeping doctor.

Many of these tradesmen are conscientious and qualify themselves as well as it is possible for a layman to do in a branch of medical science; many more of them regard every person who needs glasses, as only a chance to make one more sale, while all of them are blissfully ignorant of damage they may do by supplying glasses that do not "fit".

Following the example of the medical profession, the opticians have secured in half the states of our Union, a State Board of Examiners in Optometry, and are earnestly working for the same object in all the other states. The optometry law of our own state is one of the most shameful things that ever disgraced medical legislation. As though an optometry board can make a competent eye therapist of a mere mechanic! Let no physician be influenced by their specious arguments to endorse their demands.

It is true that to do refraction work successfully one must have good mechanical judgment, both in measuring the error of refraction, and in hanging the lenses before the eye. The speaker personally knows of one or two refracting opticians whose customers, many of them, wear glasses that might more or less correct the refractive error, if properly *placed* before the eye, so far *mis-placed* that they fail entirely to produce the results for which they were intended.

There is no more reason for a general practitioner being unable to make a working diagnosis of the serious eye diseases, than for his being unable to do what is expected of him in diseases of the abdominal or pelvic cavities. He is not expected to do cataract operations, or operate to restore a detached retina, any more than he is expected to do capital operations in the other fields mentioned, but in justice to his patients he should be able to advise them intelligently with reference to eye conditions that require expert treatment, the same as in the other fields cited.

The ophthalmoscope is as easily mastered as many other instruments used in routine examinations, and will reveal much that is of quite as much value in general medicine. We ought all of us to study the eye ground, in our daily work. When we have learned this, we have taken an important step in intelligent study of the eye with reference to the fitting of glasses. The rest can be managed by any one who can intelligently interpret the ophthalmoscopic picture, in a sufficient degree to be able to take care of the simpler cases, and recognize the more complicated ones, if he is willing to spend the same energy and time in studying the subject under competent instruction. We cannot all be ophthalmologists, but we can be of great assistance

to our patients who cannot make a long journey to consult an expert. If we put the same amount of study into this matter, we can surely do better than the optician, who has no medical training to build upon.

What will be the result of all this, and what effect will it have upon the ophthalmologist?

Already we have an increasing number of well qualified men devoting their entire attention to the diseases of the eye, together with those of the ear, nose and throat, in many of the larger towns, to the great advantage of the communities in which they reside, as well as the general profession. In other towns that will not support an exclusive special practice we have careful men doing refraction, and attending to the minor ailments of the eye, as well as the ear, nose and throat, and at the same time favoring their patients with sound advice regarding the major surgery in these special fields, to the great advantage of their *clientele,* besides making of themselves better all around practitioners. They are of great assistance to their nearby professional brethren, and the entire profession commands greater respect by reason of the work they do.

Some of the leading ophthalmologists have believed for several years that glass fitting by the country doctor will eliminate the eyeglass peddler and the refracting optician, because, when the medical men in the various communities qualify themselves to do this work in a professional manner, the public will decide who is to have the business.

The soundness of this view has already been demonstrated in numerous instances, regarding one of which the present speaker can personally testify.

The country doctor who does refraction cannot expect the fees that are enjoyed by the ophthalmologist of the city, any more than he can expect the fees in obstetrics or for the care of fractures that are received by the city physician, whose living expenses are greater than his. His fees may be in about the same proportion with the other lines of work cited, and will enable him to live and pay expenses, while he is serving a large class of people whom the city specialist will never see, because the expense of the trip to consult him is prohibitive. These are they, upon whom the peddler and the optician prey, claiming that while they sell them the goods, they donate a free examination. A commercial man usually fixes the price for his services at what he regards them worth. It is assumed that opticians are no exception to the rule. However, they do exact enough for the goods to give them one hundred per cent. profit, and still leave a margin sufficient for a very adequate examination fee.

If this crude presentation shall help continue the agitation started by the late Doctor Hubbell, Drs. Thorington and Connor, and many others of equally high standing, among eye men, to the end that this important branch of medical practice may be rescued from the low estate to which it has fallen, your speaker will be amply repaid for the effort he has made.

SOME POPULAR MISCONCEPTIONS REGARDING OPHTHALMIA NEONATORUM.*

By ELLICE M. ALGER, M.D.,
NEW YORK.

It is now more than a quarter of a century since Crede first showed that the simple instillation of a drop or two of silver nitrate solution into the eyes of the newly born infant would practically abolish ophthalmia neonatorum. The possibilities of the procedure are shown by the fact that in the great lying-in hospitals, where it has long been made a routine, the proportion of ophthalmia has been reduced from four in one hundred to less than one in four hundred confinements, while in many of them cases have not been seen for years.

But outside these institutions no such improvement has taken place. Though we have no very reliable statistics, there is no question that both the frequency of the disease and the damage it does, are vastly greater among the people who are attended at their homes by the family physician or the midwife than in the hospitals. For lack of a simple precaution a disease which should be practically unknown goes on year after year unchecked, not common by any means, but nevertheless accounting for more cases of blindness than any other cause except one and entailing on the community a vast permanent expense for the education and support of its victims.

There was a time when we as physicians hoped that, in our own country at least, the increase in prosperity and intelligence would in a generation or two cause the extinction of the midwife. That hope has long since fled. The probabilities are that, with the gradual increase in the cost of living for the masses, and the increase in the cost and complexity of medical education on which we are to-day so insistent, the obstetric work of America will more and more fall into the hands of some cheap, and perhaps efficient, substitute for the physician. The midwife to-day superintends the birth of rather more than half the children born in our large cities and we need not be surprised that under these conditions ophthalmia persists. But the midwife is everywhere being compelled to make prophylaxis a routine measure and conscious that she is a mere friendless puppet in the hands of her local board of health we can already see a gradual improvement in her statistics. But the prospect in our own profession is not by any means so hopeful.

* Read at the annual meeting of the First District Branch of the Medical Society of the State of New York, at Yonkers, October 12, 1911.

The reports of our ophthalmic hospitals and blind asylums have brought to light the astounding fact that a full half of the cases of ophthalmia have developed through the neglect of the family physician. Extensive investigations show that many physicians use prophylactic measures only in selected cases, while the great mass are taking no pains at all to prevent the disease. Some ascribe this criminal neglect to ignorance, but every text-book on obstetrics in the last twenty-five years has taught the advisability and the simplicity of prevention, and the guilty ones are quite as likely to be recent graduates as those of a past generation. Neither is it a matter of carelessness, though doubtless many are emboldened to take chances by the comparative rarity of ophthalmia. Personally I feel sure that the almost universal neglect of such an absurdly simple precaution is due not to ignorance or carelessness, but proceeds from causes much less discreditable to head and heart.

Both the physician and the layman of to-day consider ophthalmia neonatorum as essentially of venereal origin. All the text-books teach that, for all practical purposes, it is due to an infection of the conjunctiva with the gonococcus. Every case of conjunctival discharge beginning during the puerperal period is at once regarded by physician and mother and friends, as a certain proof of an antecedent infection of the mother, received of course through a delinquent husband. All the popular pseudo scientific teaching of which we have so much to-day lays special stress on this point.

Now this is distinctly only about half true and like many other half truths, it has done a tremendous amount of harm. The gonococcus is only one of a number of germs which may cause ophthalmia. Every one who has had smears made regularly from discharges in the eyes of newly born children, has probably been surprised, and perhaps had his faith in his bacteriologist shaken, by the failure to find the gonococcus in apparently typical cases. The percentage varies widely with the environment and social condition of the parents. In ophthalmic hospitals where the severer cases are the rule, the gonococcus is more common than in the dispensary patients from which the hospital cases are culled. Among patients who are vicious it is much more common than among those who are simply ignorant and filthy.

Stevenson, in his exhaustive prize essay on the subject, collected the statistics of forty-two observers reporting over 1,800 cases with gonococcus percentage varying from 29 to 100 and averaging 64. Even this is very possibly an over estimate because the microscopist knows that he is expected to find the gonococcus, and unless he be a man of experience and standing he is apt to so label all micro-organisms morphologically resembling the gonococcus of which, as Stevenson points out, there are several.

On the average then at least one case in every three is not of gonococcal origin at all.

The venereal theory of ophthalmia has been, I am sure, one of the great obstacles to universal prophylaxis. The physician cannot be handled like the midwife and told to obey orders simply because they are orders. He insists upon knowing why and upon using his own powers of discrimination in individual cases; and it is best in the long run perhaps that he should maintain this attitude of intellectual independence. Sceptic though he often is of human virtue, he cannot suspect all his prospective mothers of harboring a latent gonorrhœa, and that being the case there seems to him no logical need of any prophylactic instillation.

Furthermore physicians often feel that in the cases of most of their patients and friends prophylaxis against a venereal disease would not only be unnecessary but almost insulting, and it would certainly be so regarded by most of these patients if they were consulted in the matter.

But if we teach the absolute truth, and convince both physician and mother, that ophthalmia is not necessarily a disgraceful occurrance, but that in from one-third to one-half the cases result from such common organisms as the pneumococcus, the colon bacillus, or any of the various pus germs so often found in vaginal secretions, the physician will at once see the advisability of prophylaxis in every case, while parents will no longer feel insulted at the suggestion of such a precaution.

Furthermore in the cases which have occurred and which will occur from time to time the community will know better than to harbor the, often unworthy, suspicions which are universal to-day.

The gonococcus theory is also responsible for unfortunate misconceptions as to the severity and danger of the disease when it does occur, and leads to serious errors in treatment. Gonorrhœal ophthalmia in the adult is certainly one of the most violent infections to which the human eye is subject and the belief, derived from most of our text-books, that ophthalmia neonatorum is the same disease engrafted on the delicate tissues of the new born child, not only causes the most intense solicitude but also seems to call for treatment of the most radical sort.

But the two diseases are not the same. Whether the infection be with the gonococcus or one of the other germs the child has apparently in its intrauterine life developed the same partial immunity that its mother possesses. We have no means of knowing how often this immunity is so complete that no reaction at all follows inoculation at birth, but it must be a very frequent occurrence. But we do know that when the disease does develop it is very seldom as violent or as destructive as in the adult. Its natural tendency, except for one thing, is to get well in a week or two, or to subside into a chronic purulent conjunctivitis which does not necessarily involve any great danger to the eye.

But here again the persistent notion that the condition is a desperate one calling for the severest methods, so affects our ideas of treatment that I firmly believe almost as many eyes are lost or damaged by over treatment as by neglect.

We are told that every child should be placed in a hospital under the care of specialists, and with an exclusive nurse, so that the eyes may be cleansed and treated every fifteen minutes if necessary. The lids are to be everted at frequent intervals and treated with strong solutions of one sort or another, and a constant succession of irrigations, hot or cold compresses, and the like, brought into play according to the preference of the attending physician.

Now the natural tendency of the disease is to get well and the only great danger to be feared is involvement of the cornea and the production of ulcers which occasionally perforate and destroy the eye entirely, but much more commonly render the cornea opaque forever. The outer layer of the cornea is extremely resistent to infection and, so long as this remains intact, the eye is safe enough, but even the slightest abrasion of this membrane permits an often fatal infection of the less resistent tissues of the cornea proper. Every precaution should therefore be taken to preserve the integrity of the corneal epithelium, while as a matter of fact the usual program of meddlesome interference would sooner or later abrade the cornea of a perfectly healthy eye. Strong solutions of all sorts should be avoided on this very account, and likewise compresses and poultices which increase the pressure of the lids on the cornea. A clumsy or a heavy handed nurse or physician in the effort to evert the lids will very often damage the cornea while efforts to pry open the eyes and irrigate them at frequent intervals is almost sure to do harm.

Even the advisability of hospital treatment is open to serious question. Personally I never advise it unless the child seems certain to be neglected at home. The prognosis in any given case depends more on the vitality and nutrition of the child than on any other one factor. All competent observers agree that the proportion of cases is much greater among foundlings and infants prematurely born, and that the prognosis is infinitely worse. Likewise children that inherit disease, children that have to be artificially fed, and even children that are below the average in weight offer a distinctly less favorable prognosis than the healthy, well-nourished, breast-fed child. Admission to a hospital generally means separation of mother and child, which is to be avoided at all hazards.

Physicians are taught to lay altogether too much stress on the hospital, the oculist, and the bacteriologist. When cases do occur the main thing is to get the treatment started at once. Every day lost in finding a hospital which will admit such a child, either with or without the mother, and in waiting for the specialist to make his appearance, and for the bacteriologist to make his report, is just so much extra unnecessary risk to the eyesight of the child. Except for sharing the responsibility the specialist can do little that the general practitioner *should* not do just as well. The bacteriological diagnosis, too, is of secondary importance, for the treatment is the same no matter what the germ. Neither should failure to find the gonococcus unduly uplift the physician, though it does make the prognosis somewhat more favorable. Its chief value is that it clears up the reputation of the parents.

The treatment is simple and in breast-fed children of average weight and health, taken early, will almost invariably end in perfect recovery. The indications are clearly for nutrition, cleanliness, and drainage, with the minimum amount of interference necessary to secure them.

I am accustomed to have the child brought to me once every day, at which time, if it can be done without too much struggling, I try to get a glimpse of the cornea and drop a drop of 1% silver nitrate into the eye. The mother or nurse is taught how to hold the child's head firmly between her knees and to open the eyes by gentle traction from the superior and inferior margins of the orbit, without making any pressure on the eye. It is not necessary for her to see the cornea It is sufficient if the lids open wide enough for pus to flow out and solutions to flow in. She must of course be taught the ordinary precautions against contagion. She is directed to sponge the closed eyes very gently with pledgets of cotton and boric acid as fast as notable secretion accumulates and the lids are prevented from sticking by applications of oil or vaseline. Every three hours or so, seldom oftener, a drop of 20% argyrol solution is instilled, or such other drug as may be selected. My preference is for this, not because it is a better germicide than others, but because it is less irritating and seems to float pus out of the eye. By a little gentle lid manipulation and without any pressure on the eye it can be made to penetrate in all directions under the lids. Under treatment of this sort most cases improve from the beginning and complications are surprisingly uncommon. When ulcers and the like have been present before the treatment was begun the prognosis is worse, but I am sure the same conservative treatment is best. You cannot possibly disinfect an ulcer which is bathed in pus by carbolic or iodine or cautery, but you can easily by such means hasten the destruction of the eye. The presence of corneal complications, while they make the prognosis worse, make no great change in the treatment except that they call for the additional use of atropine.

THE ROLE OF THE SMALLER HOSPITAL.*

By MARK O'MEARA, M.D.,
KINGSTON, N. Y.

HOSPITALS have almost from the beginning played an important role in the practice of medicine and surgery, but it was, as shown by Walsh, in the beginning of the 13th century, that the modern hospital, as we know it to-day, was established. For instance, we know that St. Thomas's Hospital in London, one of the world's greatest hospitals, even to-day, was founded in the 13th century, but in those times, as in more modern ones, great hospitals were established in connection with great universities, or at least in the larger centers.

During comparatively recent times smaller hospitals, both municipal and private have been established, and are being established quite rapidly throughout the country. Most of these smaller hospitals have come into existence in response to a definite want. The great industrial undertakings of the present time all over the country, in many cases, call for work of a most hazardous nature and are, therefore, a prolific source of serious accidents. These smaller hospitals are necessary to meet this condition, because many of these accidents are of such a nature, that the condition of the patients will not permit of their removal to more distant and larger hospitals. Then, too, we realize more and more the importance of early operation in many abdominal and other surgical conditions; and I think it will be admitted that patients suffering from acute surgical conditions, like strangulated hernia and abscess formations generally within the abdomen, stand transportation to larger and more distant hospitals very poorly.

From an educational standpoint these hospitals are valuable in many ways. They help, for instance, very materially to overcome popular prejudice, so prevalent against hospitals generally. A prejudice, which has been responsible, and is responsible to-day, for many patients being treated in their homes with the result that many lives are lost, which might otherwise be saved, had these patients consented to undergo proper hospital treatment. In brief, it may be said that not only do these smaller hospitals offer opportunities for the care of the sick and injured, hardly possible in any other way, but they stimulate greater interest in the scientific practice of medicine and surgery generally, and inculcate a better and more professional feeling amongst the profession.

An investigation as to the work being done, and the number of patients treated in many of these smaller hospitals, leaves no doubt as to their usefulness. It seems to me that the important question to be considered in connection with a discussion of the smaller hospital is this, how can its usefulness be further increased? In order to answer this question, let us glance backward and note some of the things which have made for progress in the past. It is generally conceded that one of the most potent factors in the development of hospital work, and in fact of the scientific practice of medicine has been, and is to-day, the bacteriological and pathological laboratory. Such a laboratory established on a proper basis and in charge of a competent man, is in my opinion a most pressing need of the smaller hospitals, and of the general practitioners throughout the country who are daily making more and more use of these institutions. Now it is impossible for many of the smaller hospitals to properly equip and maintain such a laboratory. What, then, can be done? The establishment as permitted under the present law of county bacteriological laboratories solves the problem, but right here I wish to make a recommendation.

The present law governing the establishment of county bacterial laboratories gives absolute control as to the appointment of the bacteriologist and the management of such laboratories into the hands of the boards of supervisors. This arrangement is, in my opinion, prejudicial to the best interest of the county laboratory, because there is danger of its becoming a political institution, rather than a scientific one. The law, therefore, should, I think, be so amended, as to give representation to the county medical societies on the boards of managers of the county bacteriological laboratories, that is, joint representation with the board of supervisors, or at least the position of bacteriologist should be made a civil service one. The county bacteriological laboratory so situated that its usefulness can be extended not only to the smaller hospitals but to the general practitioners throughout the counties would be of great value in promoting the more scientific practice of medicine and surgery generally, and would be an effectual means of raising the standard of the smaller hospital.

* Read at the annual meeting of the Third District Branch of the Medical Society of the State of New York, October 3, 1911.

VACCINATION.*

By DANIEL SWIFT BURR, M.D.,
BINGHAMTON, N. Y.

IN this medical age of serum-therapy, it may be of benefit to us to consider for a time the original pioneer of this style of medication, the prevention or amelioration of smallpox by inoculation, and lastly by vaccination. The former I shall of necessity consider historically, and the latter from tradition, experience and personal inquiry.

* Read at the annual meeting of the Sixth District Branch of the Medical Society of the State of New York, at Elmira, October 17, 1911.

The history of the different nations shows that they were visited, at intervals, by outbreaks of smallpox of virulent type and that large numbers died from the same. We have knowledge of whole tribes of Indians being wiped out as late as 1838 (see item in *Boston Medical and Surgical Journal* for August, 1838.) Any disease or injury that affects more than one-third of the skin functions of the body is, of necessity, dangerous to the life of the individual, and particularly so in the confluent form of smallpox with its secondary septic fever.

Inoculation.—Some one in the far past found out that if you inserted some of the virus from a smallpox vesicle into the arm of a well person, that you produced a light form of smallpox, marked by fewer pustules and therefore less dangerous to life and less disfiguring to the smoothness of the skin. This was known as inoculation. Statistics show that where inoculation was carried out during epidemic years of smallpox, that the death rate decreased greatly. I will quote from an article by Dr. Lane, published in the *American Journal Medical Sciences* in 1846, in which he quotes from Shattuck, on Vital Statistics of Boston.

"In the city of Boston, smallpox appeared as an epidemic in 1721, 1730, 1752, 1764, 1776, 1778, and 1792, with varying degrees of fatality. The subsequent table presents in beautiful contrast the effects of the natural and the inoculated smallpox.

	Natural		Inoculated		Total	
Year.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1721	5,759	844	247	6	6,006	850
1730	3,600	488	400	12	4,000	500
1752	5,545	539	2,124	30	7,669	569
1764	669	124	4,977	46	5,646	170
1776	304	29	4,988	18	5,292	57
1778	122	42	2,121	29	2,243	61
1792	232	33	8,114	165	8,346	198

The population of Boston in 1721 was 10,567 a death rate of 80.43 per thousand of inhabitants from this disease alone. If a person survived an attack of smallpox, he was protected from having the disease a second time and the same was noticed in those who were inoculated. Inoculation had its drawbacks, for a person so treated had to be isolated from persons not exposed, and exposures from varioloid, as the inoculated disease was called, produced the genuine smallpox. To take advantage of inoculation, parties were made up and grouped themselves together at some isolated place, where in temporary camp or building, they resided until they had recovered and were considered safe to return to their former residence. The attendants were those who had previously had the disease. I may seem a little prolix to some of you, in thus describing a serum therapy of two hundred years ago, yet (in an article by Asst. Surgeons Heiser and Oleson, of the P. H. & M. H. Service, published in the Public Health Bulletin of March of this year) there is a description of a U. S. transport that left Manila in 1904 and during the first week of the voyage, smallpox made its appearance in an unvaccinated child. Three others who had never been vaccinated took the disease in due time. In a hot climate, with unreliable or no vaccine virus on hand, what would you have advised the officers of the ship to do?

It had been observed in England, in the latter years of the eighteenth century, that certain milkmaids escaped having smallpox although exposed to the same. They were known to have had sores on their hands that were contracted from cows that had the kine-pox. The experiments of Edward Jenner proved that virus from the individual contracting the disease from the cow, could be transmitted from individual to individual and that each would be protected from contracting smallpox. This fact was established, by Jenner, May 14, 1796, and was early termed inoculation for the kine-pox or vaccination.

Vaccination was introduced into the United States about the year 1800. In a book on vaccination, published in Philadelphia in 1802 by Dr. John Redman Coxe, I find the following:

"Having fortunately been instrumental in introducing this disease into Philadelphia and the adjoining country, I candidly confess I feel a pleasure in the reflection which nothing should tempt me to forego. Nor are my feelings less agreeable in considering myself as the very first person in this city who actually had it by inoculation here. I have proved in my own person the mildness of the Vaccine, and the perfect confidence I placed in the accounts of its immortal discoverer."

The city of Boston was wide awake to this new discovery, for I find the following in a Public Health Report to the City Council from the Boston Board of Health:

". . . It was in 1802 that the Municipal Authorities first adopted any measures on the subject. The Board of Health then caused twenty-two persons to be vaccinated and afterwards sent to a hospital and inoculated for the smallpox, 'in order,' as they say, 'to remove all reasonable doubts of the utility of the kine pox or vaccine inoculation as a preventive against the smallpox.' and the experiment appears to have been quite successful in proving the value of vaccination. Afterwards in 1816, the Assessors having certified that there were five thousand and fifty-three persons who had never been vaccinated nor had the smallpox, a general vaccination took place under the direction of Committees of the several Wards."

In the *American Journal Medical Sciences* for April, 1847, I find the following relating to the city of Philadelphia:

". . . At the close of 1801, the first successful efforts were made at vaccination in this city. In the early periods of this practice, until the year 1812, every means was employed, which, at the time, was best calculated to determine whether the process of vaccination would afford full protection against smallpox. The first step

generally taken, after having observed the genuine character of the vaccine pock, was to insert a portion of variolous matter, and to note its progress. Where due attention had been paid to the selection and insertion of this matter, a small red pimple appeared about the third day. On the fifth day this was converted into a purulent crust, surrounded by inflammation, generally of no great extent, which, after this period, began to fade, and was rarely perceptible beyond the eighth day; it left no trace beyond the tenth. The full and distinctive character of the variolous was not observed on these occasions. The persons thus treated were not affected with fever, or any general derangement of the system, nor was any eruption observed on the skin. The persons having submitted to this test, were next exposed to the smallpox in the most direct manner, often by placing them in the beds with those laboring under the disease, even in its most virulent form. A like immunity attended this experiment."

About ten years later, inoculation for the smallpox was prohibited by law, both in Massachusetts and Pennsylvania, and vaccination became firmly established as the protective against smallpox. The vaccine crust or scab (human) was the general means of conveying and preserving the virus; almost every doctor having in his possession at least a portion of one and which he at intervals renewed by fresh vaccination. The clear serum like contents of the eighth day vesicle was used in arm to arm vaccination and was also dried on quills for further immediate use. I find the following advertisement in the *Boston Medical and Surgical Journal* for November, 1838:

Vaccine Virus.

"Physicians in any section of the United States can procure ten quills charged with *Pure Vaccine Virus* by return mail, on addressing the editor of the Boston Medical and Surgical Journal, enclosing one dollar, *post paid*, without which no letter will be taken from the post-office."

Postage most often had to be paid by the recipient of a letter in those days; hence the anxiety of this advertiser. It may be of interest to the younger members of this society to know the steps the doctor of a generation ago took to continue his vaccine material. A healthy baby, under two years of age, was generally selected. If other members of the family were to be vaccinated, two places were prepared on the same arm or leg, by making small denuded surfaces, being careful not to have a bleeding surface. If a quill was used, it was moistened and rubbed on the surface so prepared. If a scab was used a small portion was scraped with a lancet on a clean piece of glass, a drop of water added and rubbed until thoroughly dissolved. Then a portion of this mixture was applied to the denuded surfaces and tattoed in. The same day of the following week, the eighth day, one of the vesicles was pricked with a needle or lancet and the clear serum exudate was used to vaccinate others of the family. The surplus serum was collected upon the convex surface of previously prepared quills and allowed to dry.

An idea prevailed at that time, that a vesicle that had been punctured would be weakened in its protective power and would not give an active scab for future vaccinations.

In looking up the literature of this subject, I ran across some experiments that Dr. John C. Martin, of Attleborough, Mass., afterward of Greeneville, Ill., had made in 1835. To get fresh and reliable vaccine he inoculated a cow with smallpox matter and used virus from this animal to vaccinate children, his own among the number, giving the results of twenty-three successive cases. His account of his experiments is written in a masterful, intelligent manner and in good English. His mistake was in attempting to conduct such experiments in a country village.

In my student days my father, Dr. George Burr, obtained fresh vaccine virus from the Eastern Dispensary in New York City; I think that this department was under the direction of a Dr. Loines. It came in the shape of quills on which the virus was smeared, and was usually fresh and satisfactory. Fresh crusts or scabs could also be obtained there.

During the latter years of the Civil War, the subject of syphilis and its transmission received much attention from the medical profession, and extremists of all pathies considered that human vaccine virus was dangerous, so a return to bovine virus was demanded, and mercantile laboratories for its propagation were established and are in existence at the present. My recollection of the first bovine virus was that it was furnished on quills, also crusts, and that its use was marked with a more active inflammatory condition than did the humanized virus. That sloughing of the skin occurred oftener and that the scar that remained was cicatrized and did not present the small pin-point pits that a vaccine scar should. The anti-vaccinationist, about this time, included this in his arguments against vaccination. After glycerine was used as a vehicle, the excessive inflammation was not so noticeable.

During the past summer I visited one of these laboratories near Philadelphia. On account of the hot weather no active operations were in evidence. The physician in charge, Dr. W. F. Elgin, kindly furnished me with details and technique of their procedure, together with recent monographs on the subject. Calves of from 200 to 400 pounds weight are selected in the market and prepared by being given a thorough bath all over. The hair on the one side of the belly, from the navel to the udder, is shaved and surgically cleansed. Linear scarifications are made over this surface, the lines extending lengthwise of the body, care being taken that the incisions do not cause bleeding. The ordinary

glycerinated virus is then thoroughly rubbed in and the animal placed in a previously cleaned room. On the fifth day the calf is fastened on the table, the site of the scarifications wrinsed off and photographed and the exudate and crusts scraped off with a curette. The same is then ground in a special mill, mixed with glycerine and placed in a numbered receptacle and placed in cold storage, the number corresponding with the number of the animal. The calf is then killed, examined by a veterinarian and the record of his findings entered on the record of the animal. If the same is found diseased the exudate is destroyed.

Microscopical tests of the virus taken from each animal are made at intervals during the two months following, and the findings duly entered in the record. If no pathogenic bacteria are found during this time the virus is stored in the refrigerator for distribution as the occasion may demand. The temperature is kept near the freezing point. Virus so kept has been known to be active after being in this temperature four years. Like all cold storage animal products it rapidly deteriorates when removed from the same and exposed to heat. Dr. Elgin, in a paper written in 1906 says: "A temperature of 140 degrees Fahrenheit will destroy the virus in five minutes. A temperature of 98 Fahrenheit will destroy it in from three to four days. A temperature of 70 degrees Fahrenheit weakens it in from one to three weeks."

He also says:

"The important feature for the doctor to understand is the fact that vaccine is some form of life; it is controlled by the laws of *life* and *death;* that it is easily affected by heat, and that every care should be taken in the transportation and storage of the product, so that it will not be destroyed in this way. The doctor should not carry it around in his vest pocket nor put it in the table drawer in his office; he should not depend on the druggist to supply him in hot weather, but should order direct from the laboratory, and use the virus as soon after its receipt as possible."

The technique of vaccinating may be summed up as follows:

First—A clean skin surface.

Second—A new needle for each person vaccinated.

Third—The denuding of as small a skin-surface as possible and tattooing in of the virus without drawing blood.

Fourth—Allowing the vaccinated surface to dry in the air; if a shield is used it should be removed after twelve hours, and not worn continuously.

Fifth—Inspection of the vaccination on the eighth or ninth day.

Vaccination of Those Known to Have Been Exposed to Smallpox.

This condition demands more attention than an ordinary vaccination; you have an object in view and only five days in which to accomplish it —viz: The getting the vaccine virus to work in order to head off or modify the other contagion. In an unvaccinated person my procedure is as follows: The first day I vaccinate with virus that the druggist may have on hand in his ice-box, and telegraph for a fresh supply. The second day I make another insertion of virus, using the fresh virus if it is at hand, if not the old supply. The third day I again vaccinate, using the fresh virus and also repeat the procedure on the fourth day. If you get one of the scarifications to show signs of working you are pretty sure to have the other three *take* in addition and can thus feel sure that the patient will escape the smallpox.

Re-vaccination.—Any exposure to smallpox necessitates a re-vaccination. It has been my custom to vaccinate myself and assistants whenever smallpox has shown itself in my locality, or whenever I am exposed to the same. Certain acute diseases, particularly typhoid fever, seem to remove from the system the protective powers of previous vaccinations and even smallpox itself.

A paper was read before the Medical Society of the State of New York in 1894, by Dr. William Finder, of Troy, N. Y., on this subject. He, at that time, exhibited a man whose face was pock-marked from smallpox to an excessive degree, while on his arm was as perfect a twelve day vaccination working as I ever saw. The patient a number of years after having had confluent smallpox, contracted typhoid fever.

This paper would not be complete without reference to a very valuable illustrated monograph on vaccination, written by Dr. F. C. Curtis, for many years Secretary of The Medical Society of the State of New York. It is published by the Health Department of the State and copies of the same can be had on application to the State Commissioner of Health, Albany, N. Y.

In conclusion permit me to call your attention to a recent paper published in the *Military Surgeon* and in the *Journal* of the State Society. It is from the pen of Col. J. V. R. Hoff of the Medical Department of the United States Army, and tells what vaccination has done in the past twelve years in our newly acquired possessions. Vaccination certainly followed the flag.

CORRESPONDENCE.

To the Editor:

Will you permit me to use your Journal in communicating to the profession of the State particularly as well as to your larger constituency the following invitation to become identified with the doings of the New York Society of Anesthetists? The qualifications for active membership are at least three years of anesthetic work and an appointment as anesthetist in a hospital; associate members are accepted in conformity with the requirements of the A. M. A. governing the membership of its sections as follows: dentists, pharmacists and teachers and students of allied sciences. So this invitation is very general in its amplitude and means that any one who can show evidence of sufficient and proper interest in the science and art of anesthesia is sure of a welcome to the meetings at least, and to participation in the activities of the So-

ciety. To some who know of the pioneer work done by the Long Island Society of Anesthetists it will be necessary to state that the New York Society is the reorganized parent society. The six years passed since the first meeting was held in the Long Island College Hospital at the invitation of the writer have been seed-sowing time. Many profitable meetings were held and enough interest aroused and maintained until now it was seen proper to extend the work by inviting other and more distant associates to unite in a more formal and progressive promotion of its special interests. This was accomplished on the evening of Prof. Verworn's Harvey Society lecture at a dinner to which some forty men sat down. To show the significance of the gathering it will be necessary to state only that men came from Syracuse, Boston, Baltimore, Cleveland, even from New Orleans (though, to tell the truth, Dr. Caine just "happened in"—but he has joined the Society). It will be evident from this brief statement that the co-operation of all who are concerned in this matter is desirable and will be profitable to the participants. The annual dues are $3, payable at the February meeting. Although the Society convenes only three times each year, provision is made for other gatherings—clinics at hospitals, attendance at laboratory investigations, and if it can be arranged there will be a sectional meeting at the 1912 session of the A. M. A. Plans are being considered for the exchange and distribution of reprints, and the Society will doubtless sustain some relation to the Committee on Anesthesia of the A. M. A. There are many problems ahead of the anesthetist who would devote himself entirely to this work—the incursion of unqualified nurses, the instruction of students and the determination of the value of new methods are but a few. Application for membership may be sent to the undersigned at No. 458 Ninth Street, or to the Secretary, Dr. Harold A. Sanders, No. 864 St. John's Place, both Brooklyn, N. Y.

A. F. Erdmann, *President.*

ANNUAL MEETING OF THE SANITARY OFFICERS' ASSOCIATION OF NEW YORK STATE.

The New York State Sanitary Officers' Association, made up of the fourteen hundred health officers of the state, held its third annual meeting at the Hotel Astor, New York City, at 2 o'clock, Tuesday afternoon, October 24th. The officers for the ensuing year were elected as follows:

Frank Overton, M.D., Patchogue, President. Louis M. Brown, M.D., Purdy's Station; Daniel S. Burr, M.D., Binghamton; Louis B. Couch, M.D., Nyack; O. J. Hallenbeck, M.D., Canandaigua, Vice-Presidents. William Stanton, M.D., Webster, Treasurer. Montgomery E. Leary, M.D., Rochester, Secretary.

Over one hundred members were present and an exceedingly interesting programme was presented. Several of the speakers dwelt upon their experiences in the practical application of the present sanitary laws, and it was the opinion of the Association that the present code is inefficient and inadequate. Health officers are afforded practically no real protection. One instance was cited where a health officer was put to the expense of nearly $1,000 in defending a suit which the court eventually threw out—"No cause for action."

The Attorney General has expressed an opinion that the local boards of health—village or town—have no right under the present law to incur an expense for articles destroyed by health officers. The position of a health officer is thus made not only possibly expensive but very incapable of accomplishing much where opposition is met.

The State Department of Health, through Commissioner Eugene H. Porter, Deputy Commissioner Wm. H. Howe and Secretary Alec H. Seymour, has pledged its hearty support in co-operating towards securing the necessary revision. President Frank Overton is selecting a Legislative Committee of five with himself and the secretary as *ex-officio* members, which will immediately take up this rather formidable task. It will require not only much labor but much time to complete. The codes of various states will be studied and the good points of each adopted. This will be the beginning of placing New York in the front rank in sanitary work.

This is the first instance we know of where the actual revision of the sanitary laws will be undertaken by the organized effort of the health officers in co-operation with the State Department of Health. It is hoped by adopting this means to secure a nearer approach to the ideal than has been accomplished in the past. In New York State last year there were five members of the legislature who were physicians and much pioneer work was accomplished by the Public Health Committee, of which they were all members.

This revision will be an expensive undertaking, and it is hoped the health officers of the state will realize its importance and do their part toward bringing the work to a successful issue. It is not expected to be completed inside of two or three years.

The Sanitary Officers' Association meeting was held the day previous the usual conference of the state sanitary officers, which was also well attended, over eight hundred being registered. Everyone declared themselves unusually pleased with the New York meeting, as it affords unusual opportunities for instruction and investigations. It is hoped that Commissioner Porter will see fit in future to hold the conferences in New York at least every alternate year.

The Medical Society of the State of New York.

DISTRICT BRANCHES.

SECOND DISTRICT BRANCH.

Annual Meeting at Brooklyn, Thursday, October 26, 1911.

BUSINESS SESSION.

There was present about sixty members and the officers of the District Branch.

The following officers were elected: President, Walter B. Chase, Brooklyn; Vice-President, Victor A. Robertson, Brooklyn; Secretary-Treasurer, Charles Eastmond, Brooklyn.

A proposed amendment to the By-Laws as to the time newly elected officials should take office was introduced as follows:

"Amend Section 3, Chapter 2, by striking out the words 'on January first of' and substituting the words 'at the close of the annual meeting of the Medical Society of the State of New York.'"

In accordance with the By-Laws this will have to lie over until the next annual meeting for action.

A motion was also introduced regarding the date for the annual meeting of the Branch, which was left to the discretion of the incoming officers.

SCIENTIFIC SESSION.

Dr. Wendell C. Phillips, of Manhattan, President of the Medical Society of the State of New York, addressed the meeting and stated his plans for the coming annual session of the Society.

Dr. Phillips' plan is to establish sections, each section to have its own chairman and secretary. Five sections have been organized, namely, Section on Medicine, Section on Surgery, Section on Diseases of the Eye, Ear, Nose and Throat, Section on Mental and Nervous Diseases, Eugenics and Medical Expert Testimony, and Section on Public Health and Preventive Medicine.

A large public meeting is to be held to be addressed by physicians of national reputation. The great public institutions, including the State Laboratory at Albany, were to be visited and their work brought prominently before the delegates. On motion duly seconded and carried the delegates of the Branch approved these suggestions and plans of Dr. Phillips.

Dr. Howe of the State Board of Health, on invitation of Dr. Frank Overton, the presiding officer of the Branch, spoke of the work of the State Board and its intimate relations with the Section on Public Health and Preventive Medicine. He invited the delegates to visit the State Laboratory during the annual meeting to inspect the methods of preparation of diphtheria and tetanus antitoxines. He also offered the assistance of the State Board of Health in questions of obscure diagnosis in bacterial infections.

A paper on the "Importance of Early Operation in Acute Mastoiditis" was read by Dr. Lefferts A. McClelland of Brooklyn, discussed by Drs. Wendell C. Phillips, S. H. Lutz and C. H. Cox.

"The Uses of the Thermo Cautery and Radium as Palliative Measures in Uterine Cancer," W. B. Chase, M.D., Brooklyn.

In the discussion which followed Dr. Chase's paper Dr. W. H. Ross introduced the following resolution:

That the Second District Branch recommends that the Council of the Medical Society of the State of New York reconsider the resolution offered by Dr. Chase in 1910, as follows:

First.—That the Medical Society of the State of New York shall by its president, appoint a committee of five, whose duty it shall be to urge on all practitioners of medicine in this state greater care in making early diagnosis in cases of suspected uterine cancer.

Second.—Resolved, That this committee be directed to devise some method by which along ethical lines women may be properly informed as to the reason why they should seek early professional advice in menstrual disorders; and that they are further instructed to consider some more comprehensive plan whereby a larger diffusion of appropriate and vital knowledge may be promulgated on this very important subject.

Third.—Resolved, That this committee be directed to report its recommendations at the next meeting of the society.

Fourth.—Resolved, That the treasurer of this society be directed to honor payment of bills incurred for printing and needful correspondence (if not otherwise provided for, and that this committee be empowered to fill vacancies in its membership and appoint subcommittees if deemed expedient.

"Chronic Invalidism due to Pathologic Conditions of the Colon and Appendix," James Taft Pilcher, M.D., Brooklyn.

No discussion followed owing to the lateness of the hour.

An informal reception and collation tendered the delegates by the Medical Society of the County of Kings, followed the meeting.

THIRD DISTRICT BRANCH.

FIFTH ANNUAL MEETING AT KINGSTON, N. Y., OCTOBER 3, 1911.

BUSINESS SESSION.

The following officers were elected: President, John B. Harvie, Troy; Vice-President, Robert Seldon, Catskill; Secretary, William Kirk, Troy; Treasurer, Sherwood V. Whitbeck, Hudson.

The following amendment to the By-Laws was introduced and in accordance with the By-Laws, will have to lie over for action until the next annual meeting.

"Amend Section 3, Chapter 11, by striking out the words 'on January 1st of' and substituting the words 'at the close of the annual meeting of the Medical Society of the State of New York.'"

The date for the next meeting was fixed for the first Tuesday in October, at Troy, N. Y.

SCIENTIFIC SESSION.

Visit to the Kingston City Hospital and the Tuberculosis Hospital and Camp by automobile.

"Demonstration in Cystoscopy, at Benedictine Sanitarium," J. N. Vander Veer, M.D., Albany.

Demonstration of Medical and Surgical Patients by Local Physicians.

President's address, "The Role of the Smaller Hospital," Mark O'Meara, M.D., Kingston.

"Radiography in Physical Diagnosis," A. MacFarlane, M.D., and A. F. Holding, M.D., Albany.

Discussion opened by E. E. Norwood, M.D., of Kingston.

Case of bullet wound of the abdomen: "Report of Case of Bullet Wound of Sigmoid and Bladder During Acute Exacerbation of a Chronic Appendicitis," C. G. Hacker, M.D., Albany.

"Actual Condition of Vascular Surgery," Alexis Carrel, M.D., Rockefeller Institute, N. Y.

"Psychotherapy in Organic Disease," James J. Walsh, M.D., New York City.

Discussion opened by A. Vander Veer, M.D., Albany.

"Chorio-Epithelioma with Report of Cases," C. O. Kepler, M.D., Boston.

Discussion opened by Mary Gage-Day, M.D., Kingston.

"Medical Ethics," Wisner R. Townsend, M.D., New York City.

Discussion opened by Frederick Snyder, M.D., Kingston.

In the evening a Public Health Meeting was held under the auspices of the Third District Branch of the Medical Society of the State of New York, the Medical Society of the County of Ulster, and the Public Health Committee of the Federation of Women's Clubs.

Remarks: The plan of co-operation of the State Department of Health, with county medical societies and other agencies for the promotion of public health, William A. Howe, M.D., Deputy Commissioner of Health, Albany.

Illustrated lecture, "The Service of Biology in the Prevention and Cure of Infectious Diseases," Veranus A. Moore, M.D., Cornell University.

At the close of the meeting an informal reception was tendered to the newly elected officers.

FOURTH DISTRICT BRANCH.

ANNUAL MEETING, AT OGDENSBURG, OCTOBER 10, 1911.

BUSINESS SESSION.

The meeting was called to order by the President, Dr. Grant C. Madill, at 10 A. M.

A communication from the Secretary of the State Society relative to change in By-Laws was read, and on motion was referred to the Executive Committee.

Dr. W. B. Hanbidge, of Ogdensburg, offered the following notice of amendment to be acted upon at the next regular meeting:

"Amend Section 3, Chapter 2, by striking out the words 'on January 1st of' and substituting the words 'at the close of the annual meeting of the Medical Society of the State of New York.'"

The following officers were elected: President, Fred G. Fielding, Glens Falls; Vice-President, Silas J. Banker, Fort Edward; Secretary, Frederic J. Resseguie, Saratoga Springs; Treasurer, George H. Oliver, Malone.

SCIENTIFIC SESSION.

President's address, "The Role of the Surgeon in the Treatment of Neurasthenia," G. C. Madill, M.D., Ogdensburg.

"The Value of Urinary Examinations in Infants," F. Vander Bogert, M.D., Schenectady.

"Insanity. Prevention Better than Cure," R. H. Hutchings, M.D., Ogdensburg.

"The Typhoid State," W. N. MacArtney, M.D., Fort Covington.

"Infant Feeding with Undiluted Cow's Milk," W. B. Hanbidge, M.D., Ogdensburg.

Address. Wendell C. Phillips, M.D., President, Medical Society of the State of New York, New York City.

"The Sanitary Engineer and the Laboratory in Relation to Public Sanitation," Charles Stover, M.D., Amsterdam.

"Abdominal Ptosis," George Lenz, M.D., Gloversville.

"The Present Status of Diagnosis in Diseases of the Kidney and Ureter," E. M. Stanton, M.D., Schenectady.

"The Study of the Gastro-Intestinal Tract by Fluoroscopy and Instantaneous Radiography," A. F. Holding, M.D., Albany.

FIFTH DISTRICT BRANCH.

Annual Meeting at Utica, N. Y., October 5, 1911.

BUSINESS SESSION.

The following officers were elected: President, James K. Stockwell, Oswego; Vice-President, Amos P. Dodge, Oneida; Secretary, Frederick H. Flaherty, Syracuse; Treasurer, Harry E. Hoyt, Watertown.

SCIENTIFIC SESSION.

President's address: "The Growing Importance of Understanding Physical and Chemical Laws in Medical Practice," A. A. Gillette, M.D., Rome.

"Broncho-Pneumonia in Children," H. A. Hoyt, M.D., Watertown.

"Diet and the Individual," W. M. Gibson, M.D., Utica.

"Some Facts Concerning the Faucial Tonsils and their Complete Removal," J. F. McCaw, M.D., Watertown.

"Urinary Analysis as a Diagnostic Aid in the Toxæmias of Pregnancy," A. S. Hotaling, M.D., Syracuse.

"Some Observations on the Urine of Pregnancy," W. A. Groat, M.D., Syracuse.

Discussion opened by A. B. Miller, M.D., Syracuse.

"Some Aspects of Medical Education," J. L. Heffron, M.D., Syracuse.

SURGICAL SYMPOSIUM.

"Anatomical Demonstration of the Hip Joint," H. S. Stiles, M.D., Syracuse.

"X-Ray Demonstration of Injuries about the Hip Joint," C. E. Coon, M.D., Syracuse.

"Diagnosis of Hip Joint Fractures," C. H. Baldwin, M.D., Utica.

"Treatment of Fractures about the Hip Joint," D. M. Totman, M.D., Syracuse.

SEVENTH DISTRICT BRANCH.

Annual Meeting at Rochester, October 19, 1911

The meeting was called to order with President Wesley T. Mulligan in the chair.

The President recommended that the next meeting be held on the third Thursday in October, so as not to conflict with the other District Branch meetings.

Moved, seconded and carried that a committee be appointed to consider the suggestion and report at the business meeting after recess.

The President appointed Drs. W. B. Jones, C. O. Boswell and J. F. Myers.

SCIENTIFIC SESSION.

"Some Manifestations of Late Syphilis," F. W. Lester, M.D., Seneca.

This paper was discussed by E. Wood Ruggles and H. J. Knickerbocker.

SYMPOSIUM ON TUBERCULOSIS.

"General Considerations of Tubercular Treatment," N. K. MacLeod, M.D., Buffalo.

"Tuberculosis of the Pelvis in Women," E. P. Lothrop, M.D., Buffalo.

"Surgical Tuberculosis," J. A. McLeod, M.D., Buffalo.

"Salvarsan vs. Mercury," E. Wood Ruggles, M.D., Rochester.

Discussed by Drs. Bernard Cohen of Buffalo, G. W. Ross of Canada, and closed by Dr. Ruggles.

The meeting then adjourned for luncheon with about one hundred and fifty present.

After luncheon the meeting was called to order by Dr. W. B. Jones, who occupied the chair until the President returned.

The papers in the symposium on Tuberculosis were then discussed by Dr. G. W. Rose of Canada, Dr. Bernard Cohen of Buffalo, and Dr. Joseph Roby of Rochester, the discussion being closed by J. A. McLeod.

The scientific session was then suspended for a short time for the business meeting.

Moved, seconded and carried that the reading of the minutes of the previous meeting be suspended.

Moved by Dr. Creveling and seconded, that the next regular meeting be held at Corning, N. Y. Carried.

Moved by Dr. Skinner, seconded and carried that Dr. Smith act as President for the ensuing year, and that one ballot be cast by the Secretary. The ballot was cast and Dr. Smith was declared elected.

Moved, seconded and carried that the Secretary cast one ballot for Dr. Willard D. Becker of Rochester, for Vice-President. The ballot was cast and Dr. Becker was declared elected.

Moved, seconded and carried that the Secretary cast one ballot for Dr. H. J. Knickerbocker of Geneva, for Treasurer. The ballot was cast and Dr. Knickerbocker was declared elected.

Moved, seconded and carried that Dr. J. F. Myers of Sodus be re-elected Secretary for the ensuing year. Dr. Myers was declared elected.

Moved by Dr. Skinner that hereafter we pay an annual fee of one dollar.

After it was explained that the State Society pays all our expenses except for luncheons, it was voted down.

Dr. Boswell, acting as Chairman of the Committee appointed by the President, reported favorably on the suggestions made by the State Secretary, and it was moved, seconded and carried to lay the amendment on the table for consideration for one year.

"Amend Section 3, Chapter 2, by striking out the words 'On January 1st of' and substituting the words 'the close of the annual meeting of the Medical Society of the State of New York.'"

It was then moved, seconded and carried that the scientific program be resumed.

"X-Ray Examination as an Aid to Diagnosis," A. B. Palmer, M.D., Rochester.

The doctor showed a series of radiographs demonstrating Pulmonary Tuberculosis and Diseases of the Thorax.

"Influenzal Arthritis," J. P. Creveling, M.D., Auburn.

This paper was discussed by Dr. Douglass Ward, and Dr. J. P. Creveling closed the discussion.

"Vaccine Treatment in Certain Diseases of the Skin," G. W. Ross, F.R.S., Canada.

This was discussed by Drs. C. O. Boswell, Bernard Cohen, E. Wood Ruggles, N. K. MacLeod, and Joseph Roby, and closed by Dr. Ross.

"Gastric Ulcer," W. W. Skinner, M.D., Geneva.

"Diagnosis of Diseases about the Waist Line," J. R. Culkin, M.D., Rochester.

Dr. Allen asked for five minutes to explain and ask co-operation in her work, as directed by the Women's Confederation of Clubs in disseminating knowledge of prophylaxis of disease to mothers and the general public.

"A Case of Paraplegia Inferior, with Treatment and Result," E. E. Foster, M.D., Penn Yan.

"Proctolysis and an Apparatus that Works Satisfactorily," H. J. Knickerbocker, M.D., Geneva.

COUNTY SOCIETIES.

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.

Regular Meeting, at Schenectady, November 16, 1911.

SCIENTIFIC PROGRAM.

"An Outline of the Anatomy and Physiology of the Heart," J. M. W. Scott, M.D., Schenectady.

"Blood Pressure," A. Grussner, M.D., Schenectady.

"Myocarditis, its Results and Treatment," S. B. Ward, M.D., Albany.

FEE SPLITTING AND THE MEDICAL SOCIETY OF THE COUNTY OF KINGS.

Dr. A. T. Bristow, Editor.

DEAR SIR:—

The following is a copy of the resolution adopted by the Medical Society of the County of Kings at the meeting held November 21, 1911:

Resolved, That the secret division of a fee with any person who may be instrumental in influencing a patient to apply for operative care or professional advice, is unworthy of any member of the medical profession.

Resolved, That any member of the Society who promises, offers or gives, or causes to be promised, offered, or given, any money or other valuable thing to any person for inducing or influencing a patient to apply to such member for operative care or professional advice, shall be reported to the Society by the Council, with a recommendation for his expulsion from membership.

C. B. CRANE,
Secretary.

MEDICAL SOCIETY OF THE COUNTY OF CLINTON.

ANNUAL MEETING, AT PLATTSBURG, NOVEMBER 21, 1911.

The following officers were elected for 1912: President, Myron D. Briggs, Champlain; Vice-President, Lyman G. Barton, Willsboro; Secretary, Thomas A. Rogers, Plattsburg; Treasurer, Jefferson G. McKinney, Plattsburg; Censors, G. D. Dare, J. J. Robinson, H. S. McCasland.

SCIENTIFIC SESSION.

"Four Cases of Obstetrics," H. R. Marvin, M.D., Lyon Mountain.

"Experience in the Use of Bacterins in Acne and Other Skin Lesions," H. S. McCasland, M.D., Saranac.

"A Report of Some Recent Cases of Gall Bladder Surgery," L. G. Barton, M.D., Willsboro.

"Preventable Diseases," Hills Cole, M.D., New York.

In the evening Dr. Cole, representing the State Department of Health, gave an illustrated lecture to the public on the subject, "Carriers of Disease."

MEDICAL SOCIETY OF THE COUNTY OF WARREN.

ANNUAL MEETING, AT GLENS FALLS, OCTOBER 11, 1911.

The following officers were elected for the ensuing year: President, John M. Griffin, Warrensburg; Vice-President, John J. Montgomery, Luzerne; Secretary-Treasurer, Morrison L. Haviland, Glens Falls; Censors, V. D. Selleck, Glens Falls; S. A. Rowe, Glens Falls; D. L. Rodgers, Bolton Landing; Delegate to State Society, M. L. Haviland, Glens Falls; Alternate, E. B. Probasco, Glens Falls; Delegate to Fourth District Branch, B. J. Singleton, Glens Falls; Alternate, C. R. Hoffman, Glens Falls.

SCIENTIFIC SESSION.

President's Address, T. H. Cunningham, M.D., Glens Falls.

"Report of Recent Work on the Use of Normal Blood Serum in Hemorrhage," E. B. Probasco, M.D., Glens Falls.

"The Laboratory—A Brief Summary of Its Tests and Interpretation of Same," M. Maslon, M.D., Glens Falls.

MEDICAL SOCIETY OF THE COUNTY OF WESTCHESTER.

ANNUAL MEETING AT WHITE PLAINS, NOVEMBER 21, 1911.

The following officers were elected: President, Frank E. Russell, Tarrytown; Vice-President, Charles C. Zacharie, White Plains; Secretary, Edward W. Weber, White Plains; Treasurer, Samuel B. Pray, New Rochelle; Censors, S. O. Myers, C. P. Byington, G. A. Peck; Chairman Committee on Public Health, A. B. Eckerson; Chairman Committee on Legislation, A. E. Chase; Delegates, A. F. Currier and C. P. Byington.

SCIENTIFIC SESSION.

"The County Hospital for the Tuberculous," John B. Huber, M.D., New York.

President's Address, S. O. Myers, M.D., Mt. Vernon.

MEDICAL SOCIETY OF THE COUNTY OF ST. LAWRENCE.

ANNUAL MEETING AT OGDENSBURG, OCTOBER 3, 1911.

The following officers were elected for 1912: President, Stanley W. Sayer, Gouverneur; Vice-President, Willard N. Bell, Ogdensburg; Secretary, Samuel W. Close, Gouverneur; Treasurer, Andrew H. Allen, Gouverneur; Censors, B. F. Drury, R. H. Hutchings and D. M. Taylor; Delegates to State Society, G. C. Madill, Ogdensburg; W. B. Hanbidge, Ogdensburg; Delegate to Fourth District Branch, S. W. Close, Gouverneur.

SCIENTIFIC SESSION.

President's Address—"Functional Albuminuria," C. E. Elkins, M.D., Massena.

"Making the Diagnosis," W. E. Whitford, M.D., De Peyster.

"The Importance and Necessity of Ocular Examinations in the Diagnosis of Many General Diseases," W. N. Bell, M.D., Ogdensburg.

"Anesthetics," M. J. Stearns, Ogdensburg.

THE MEDICAL SOCIETY OF THE COUNTY OF OSWEGO.

ANNUAL MEETING AT OSWEGO, NOVEMBER 21, 1911.

The following officers were elected for the ensuing year: President, Alexander C. Calisch, Oswego; Vice-President, Fenton E. MacCallum, Pulaski; Secretary, William C. Todt, Oswego; Treasurer, Frank E. Fox, Fulton. Censors: P. M. Dowd, J. T. Dwyer and C. S. Albertson, of Oswego; L. F. Hollis, Lacona, and H. P. Marsh, Fulton. Delegate to State Society: W. H. Kidder, Oswego.

SCIENTIFIC SESSION.

President's address, "Cystitis," E. W. Crispell, M.D., Williamstown.

"Rabies," R. A. Wilcox, M.D., Phoenix.

"Personal Experiences with Salvarsan," J. B. Ringland, M.D., Oswego.

"Immunity to Disease, Natural and Acquired," E. A. Gladman, M.D., Fulton.

"Fracture of Thigh—Pneumonia and Absorption of Bone," F. E. MacCallum, M.D., Pulaski.

"The Treatment of Chronic Nephritis," John L. Heffron, M.D., Syracuse.

"State Hospitals," W. H. Kidder, M.D., Oswego.

THE MEDICAL SOCIETY OF THE COUNTY OF LIVINGSTON.

ANNUAL MEETING AT GENESEO, OCTOBER 3, 1911.

The following officers were elected for the ensuing year: President, Frederick A. Strasenburgh, Avon; Vice-President, John P. Brown, Nunda; Secretary, John H. Burke, Dansville; Treasurer, Arthur H. Paine, Caledonia.

SCIENTIFIC SESSION.

President's address, W. K. McGowan, M.D., Conesus.

"Incipient Tuberculosis, its Diagnosis and Treatment," C. D. Cromwell, M.D., York.

"Tetanus," F. J. Bowen, M.D., Mt. Morris.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

Regular Meeting, at Albany, November 14, 1911.

SCIENTIFIC PROGRAM.

Symposium on the Heart.

"Anatomy," N. K. Fromm, M.D., Albany.
"Pathology," H. S. Bernstein, M.D.
"Symptoms and Diagnosis," J. F. Rooney, M.D., Albany.
"Treatment," S. B. Ward, M.D., Albany.
"Surgery," C. G. Hacker, M.D., Albany.
After the meeting refreshments were served.

BOOKS RECEIVED.

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A Manual of Fevers, by Claude Buchanan Ker, M.D. (Ed.), F.R.C.P. (Ed.), Medical Superintendent, City Hospital, Edinburgh, and lecturer on infectious diseases to The University of Edinburgh; Author of "Infectious Diseases: A Practical Text-book." London. Henry Frowde, Hodder & Stoughton. Oxford University Press, Warwick Square, E. C. 1911. Price, $2.50.

Manual of Physiology for students and practitioners, by H. Willoughby Lyle, M.D., B.S. (Lond.), F.R.C.S. (Eng.), Assistant Ophthalmic Surgeon to King's College Hospital; Surgeon to the Royal Eye Hospital; Ophthalmic Surgeon to the Royal Ear Hospital; Examiner in Physiology for the Primary Fellowship of the Royal College of Surgeons of England; Formerly lecturer on and senior demonstrator of Physiology in King's College, London. With one plate and 135 figures in the text. London. Henry Frowde, Hodder & Stoughton, Oxford University Press, Warwick Square, E. C. 1911. Price, $4.00.

Diseases of the Digestive Canal (Œsophagus, Stomach, Intestines), by Dr. Paul Cohnheim, Specialist in diseases of the stomach and intestines in Berlin. From the second German edition. Edited and translated by Dudley Fulton, M.D., Assistant Professor of Principles and Practice of Medicine, University of California College of Medicine, Los Angeles Department; Attending Physician, Los Angeles Hospital. Illustrated. Second edition. Philadelphia and London. J. B. Lippincott Company. Price, $4.00.

A Hand-Book of Medical Diagnosis, in four parts. 1. Medical Diagnosis in General; 2. The Methods and their Immediate Results; 3. Symptoms and Signs; 4. The Clinical Applications. For the use of practitioners and students. By J. C. Wilson, A.M., M.D., Professor of the Practice of Medicine and Clinical Medicine in the Jefferson Medical College, and Physician to its Hospital; Physician to the Pennsylvania Hospital; Physician-in-Chief to the German Hospital, Philadelphia. 418 text illustrations and 14 full-page plates. Third edition, thoroughly revised. Philadelphia and London. J. B. Lippincott Company. Price, $6.00.

Pain. Its causation and diagnostic significance in internal diseases. By Rudolph Schmidt, Physician to the Royal Empress Elizabeth Hospital, Vienna. Translated and edited from the second enlarged and revised German edition by Karl M. Vogel, M.D., Assistant Professor of Clinical Pathology, College of Physicians and Surgeons, Columbia University; Clinical Pathologist and Assistant Attending Physician, St. Luke's Hospital; and Hans Zinsser, A.M., M.D., Professor of Bacteriology, Leland Stanford, Jr., University. Second edition. Philadelphia and London. J. B. Lippincott Company. Price, $3.00.

Clinical Diagnosis. A text-book of clinical microscopy and clinical chemistry for medical students, laboratory workers, and practitioners of medicine. By Charles Phillips Emerson, A.B., M.D., late Resident Physician, the Johns Hopkins Hospital, and Associate in Medicine, Indiana University School of Medicine. Third edition. Philadelphia and London. J. B. Lippincott Company. Price, $5.00.

Recent Studies of Syphilis, with Special Reference to Sero-Diagnosis and Treatment. Medical Symposium Series No. 1. Second edition (revised). A reprint of articles published in the Interstate Medical Journal. Paper, 212 pp. St. Louis. Interstate Medical Journal Co. Price, $1.00.

Recent Studies of Cardio-Vascular Diseases. Medical Symposium Series No. 2. A reprint of articles published in the Interstate Medical Journal. Paper, 216 pp. St. Louis. Interstate Medical Journal Co. Price, $1.00.

Serum Diagnosis of Syphilis and the Butyric Acid Test for Syphilis. By Hideyo Noguchi, M.D., M.Sc., Associate Member of the Rockefeller Institute for Medical Research, New York. 14 illustrations. Second edition. Philadelphia and London. J. B. Lippincott Company. Price, $2.50.

Text-Book of Ophthalmology. By Dr. Ernst Fuchs, Professor of Ophthalmology in the University of Vienna. Authorized translation from the twelfth revised and greatly enlarged German edition, with numerous additions by Alexander Duane, M.D., Surgeon Ophthalmic and Aural Institute, New York. With 441 illustrations. Fourth edition. Philadelphia and London. J. B. Lippincott Company. Price, $6.00.

BOOK REVIEWS.

The Practice of Medicine. A Guide to the Nature, Discrimination and Management of Disease. By A. O. J. Kelly, A.M., M.D., Assistant Professor of Medicine in the University of Pennsylvania and Assistant Physician to the University Hospital, Philadelphia; Professor of the Theory and Practice of Medicine in the University of Vermont. Editor of the American Journal of the Medical Sciences, etc.

To produce an up-to-date treatise on the Practice of Medicine might, with all truth, be pronounced an herculean task. The extent of the field to be covered, the great amount of literature to be examined, the mooted questions to be handled, all present an amount of labor which is almost beyond individual endeavor.

We have before us such a task well completed. We will go further and call it excellent. It is with deep regret that we record the death of its able author shortly after the book issued from the press. Had he lived we are sure that he would have been rewarded by a hearty approval of his work. It will now stand an enduring monument to his scholarship, his industry and seasoned judgment.

The book opens with general observations and pathological physiology, a concise and accurate account of the modern view of infectious diseases, and, with this as a basis, the discussion of bacterial infections individually and non-bacterial fungus infections and zooparasitic infections and metazoan infections, and infections of unknown or doubtful etiology follows. The intoxications and disorders of metabolism are next discussed; then diseases of the ductless glands and internal secretion; then diseases of the blood and hemopoietic system; diseases of the circulatory system; of the respiratory system; the digestive system; the urinary system; the nervous system; the muscles, and finally diseases of the bones and joints.

The book is a well-ordered statement of existing knowledge of the subjects, most space being devoted to symptomatology, diagnosis and treatment. It is practical and of great value to the general practitioner.

The lamented author dedicates this treasure, added to our literature, to his wife. To her should flow, in great bounty, the fruits of this labor of intellect and labor of love. H. A. F.

Handbook of the Surgery of the Kidneys. By W. Bruce Clarke, M.A., M.B. (Oxon.), F.R.C.S. Senior Surgeon St. Bartholomew's Hospital; Member of Council and Court of Examiners of the Royal College of Surgeons of England; formerly Examiner in Surgery to the University of Oxford. With 5 plates and 50 illustrations in the text. Henry Frowde, Oxford University Press. Hodder & Stoughton, Warwick Square, E. C. 1911. Price, $4.00.

The book written by Clarke of London is, in fact, the outgrowth of an essay by the same author which was awarded the Jacksonian Prize by the Royal College of Surgeons more than twenty years ago. The author has not devoted his entire attention to this branch of surgery, but has been drawn to it by the difficulties attending the diagnosis and the treatment of the surgical lesions of the kidney. The views expressed are the result of his personal experience and are not always in accord with those held by others. The book is really a personal record of work done and the results accomplished, little space being given to the views of others. The book is really a handbook of present-day practice for the busy practitioner. It cannot be considered as a complete treatise of the subject, but is a very interesting addition to our knowledge of the subject. P. M. P.

Genesis. A Manual for the Instruction of Children in Matters Sexual for the Use of Parents, Teachers, Physicians and Ministers. By B. S. Talmey, M.D. The Practitioners' Pub. Co. New York.

This book fills a distinct need. The fact that education in the biology of sex is recognized as one of the causes of sexual immorality and disease makes such a book of great value. It is agreed that instruction should begin with the young in a natural, scientific manner, and lead up through botany and zoology to human sexual biology. Inasmuch as most parents have not been prepared to give such instruction or are intimidated by immoral prudishness, a systematic course of teaching can be of much value. Dr. Talmey has provided such a course.

The introduction to the book presents the general principles of the subject. The harm of ignorance is discussed, and the advantage to the young in having knowledge is clearly set forth. Chapters are devoted to lessons adapted to infancy and early childhood. Then the author explicitly describes what and how to teach children at the ages respectively of four to seven, seven to ten, ten to thirteen, thirteen to sixteen, and from sixteen to eighteen. The subject is carried along in a steadily developing sequence.

This is the sanest, most practical, and scientific book on this subject that it has been our fortune to see. If it could be in the hands of every mother who teaches her children, and in the hands of every teacher who supplements the parents, the awful evils springing from sexual ignorance would be much mitigated.

J. P. W.

Pathogenic Micro-Organisms, Including Bacteria and Protozoa. By William Hallock Park, M.D., and Anna W. Williams, M.D. Fourth edition, enlarged and thoroughly revised. Philadelphia, Lea & Febiger. 1910.

During the past year there have appeared several new editions of text-books on Bacteriology. Among these is the well-known work on "Pathogenic Bacteria and Protozoa," by Park and Williams. The first edition of this book appeared in 1899, under the title of "Bacteriology in Medicine and Surgery." The fourth edition has been revised and enlarged so as to incorporate much of the newer teaching which has marked the recent advance of this science. Like its predecessors, this edition emphasizes the relation of pathogenic bacteria to human disease, gives a comprehensive review of the standard methods for the isolation and identification of these micro-organisms, and the technic of bacteriological diagnosis by the various immunity reactions. "Such subjects"—to quote the Preface—"as the relation of bovine tuberculosis to that in man, the value of anti-meningococcic serum, the use of bacterial vaccines, the etiology of anterior poliomyelitis, and trachoma, the prevention and cure of trypanosomiasis, have been rewritten in the light of the new information which has been acquired since the writing of the previous edition."

A chapter has been added on the rôle played by bacteria in the arts and industries with special reference to those organisms concerned in agriculture and the more important fermentations. Much valuable information, gathered as a result of investigations carried on by the Research Laboratories of the Department of Health of New York City, concerning such problems of sanitary science as the contamination and purification of water, the bacteriology of milk, and practical disinfection, makes this book of special value to those interested in public health work.

The adequate and concise description of the protozoa by Dr. Williams is a commendable treatise on this subject.

This excellent work may be heartily recommended to the student, the physician, the laboratory worker and health officer.

IN MEMORIAM.

CHARLES W. M. BROWN, M.D.

Dr. C. W. M. Brown, a native of Orwell, Bradford county, Pennsylvania, and for more than thirty years a practitioner of medicine in Elmira, died on October 29, 1911, after a protracted illness of chronic nephritis.

At a special meeting of the members of the Medical Society of the County of Chemung and the Elmira Academy of Medicine the following members of the two societies were selected to frame appropriate resolutions relating to his death: A. H. Baker, C. G. R. Jennings, G. V. R. Merrill, Charles Squire and Charles Haase.

To highly esteem and honor a co-worker in the field of medicine is one thing, and to express that honor and esteem in the form of resolutions is entirely another. For more than thirty years Dr. Charles W. M. Brown went about in this community doing good and exemplifying the value of scientific medicine to the people. His manner, conduct and knowledge were a daily object lesson which increased the confidence of the people and elevated the profession in their estimation.

Like all medical men of this time he discovered in himself attributes and qualifications which rendered him more highly skilled in certain branches of the art, and these qualifications he cultivated and broadened until his superior attainments were conspicuous to all. In the field of diseases of children and general therapeutics he was exceptionally well informed and applied his knowledge with credit to himself and benefit to his patients. He did not, however, allow his work in his chosen specialty to overshadow his general knowledge of the theory of medicine and surgery, and he remained to the last abreast of the foremost teachers in these departments. His broad and accurate knowledge along these lines rendered him a most valuable consultant and his

carefully expressed opinion was daily sought to aid in solving the perplexing problems which confront the surgeon, the internist and the specialist in other lines than those followed by himself.

Mention cannot be made of Dr. Brown without associating him with the work of the Arnot-Ogden Memorial Hospital. From the day it was opened until the time of his death he gave to it of his time and knowledge without stint and to the lasting benefit of the institution. The public health, preventive medicine, public hygiene, examination of the pupils of the public schools, pure milk, pure food, pure drugs, were all subjects on which he bestowed his best thoughts, and his papers before the medical societies on these subjects left lasting impressions on the minds of his colleagues.

His home life was an example of gentleness, justness and a thorough appreciation of the responsibilities which devolve upon the head of a household and the father of a family. With this brief and imperfect picture of a few of the attributes of the brother who has preceded us by a short time, we offer for your consideration the following:

Resolved, That during the life of Dr. Brown we enjoyed a privilege in being co-workers with him, that his death is a reminder to us of the brief span we any of us have in which to work and do good, and that the greatest respect that we can show his memory is to acknowledge that the lesson has been well taught and that we will live our lives better for having known him.

In a "Doctor of the Old School" we find these words, which seem to us to be particularly appropriate: "Friends of Drumtochty, it would not be right that we should part in silence and no man say what is in every heart. We have buried the remains of one that served this Glen with a devotion that has known no reserve, and a kindness that has never failed."

Resolved, That a copy of this preamble and resolutions be transmitted to his family, local press and medical journals.

(Signed) A. H. Baker,
C. G. R. Jennings,
G. V. R. Merrill,
Charles Squire,
Charles Haase,
Committee.

Elmira, N. Y., November 8, 1911.

EDMUND L. COCKS, M.D.

Whereas, In the death of Dr. Edmund L. Cocks, the Harlem Medical Association has lost one of its ex-presidents and one of its most earnest and active members.

Whereas, In his professional life and work he exhibited the attributes of the conscientious and conservative physician, winning the respect and esteem of all who knew him.

Resolved, That the Harlem Medical Association place upon its minutes this record to show its loss; that it extend its sympathy to his family, and that a copy of these resolutions be sent to them and be published in the medical press of this city.

(Signed) Joseph E. Lombard, M.D.,
William H. Stewart, M.D.,
Henry Heiman, M.D.,
Committee.

F. C. Heckel, *Secretary.*

EDWARD MEANY, M.D.

The Tompkins County Medical Society adjourns its meeting in sorrow. The death of Dr. Edward Meany removes one of her most efficient members—organizer, president and councillor.

Dr. Meany's life has been earnest; his friends are many. He was outspoken and frank and kindly. As a physician he was dignified, unstinting in the care of his patients, and silent as to his many charities. As a citizen he has always done his part, without criticism, with charity—a man among men.

In the profession, we, who had come to know him well, always found him ready. No one, old or young, has ever heard an undeserved criticism from him. No one among us has so efficiently done his whole duty. Full of purpose, his life has been meted out to the full. In the fullness of it he has been taken from us. The whole profession, together with the entire community, mourn his loss.

To Mrs. Meany and his family we extend our most sincere condolences.

Very sincerely,
V. A. Moore,
R. C. Wilson,
John S. Kirkendall,
Committee.

DEATHS.

Will McCaw, M.D., Geneva, died November 16, 1911.

E. S. McClellan, M.D., Saranac Lake, died November, 1911.

Edward Meany, M.D., Ithaca, died November 21, 1911.

Thomas H. McGann, M.D., Gloversville, died November 8, 1911.

John H. Miller, M.D., Niagara Falls, died November 10, 1911.

Anthony Vadeboncoeur, M.D., Syracuse, died November 9, 1911.

Joseph Eugene Vidal, M.D., Stapleton, died November 19, 1911.

INDEX

NOTE.—Original articles are indexed in *italics*. Other abbreviations are as follows: Editorials (E); New Books (B).

Abdomen, Gunshot Wounds of the, with Operation and Recovery ... 37
Abdominal Inflammations, Vein Signs in ... 27
—— *Disease, Early Functional Danger Signals in* ... 215
Abnormal Pelvic Conditions, Importance, Early Diagnosis in ... 24
Acute Infections, Treatment of ... 527
—— *Mastoiditis, Recognition and Treatemnt of* .. 83
—— *Unilateral Hæmatogenous Infection of the Kidneys* ... 554
—— —— —— *Septic Infection of the Kidneys* 369
Adami, Principles of Pathology (B) ... 354
Adams, Charles Francis ... 162
Adenoids, Importance of Recognition and Treatment ... 38
Adsit, Henry ... 323
Albee, Fred Houdlett ... 522
Alger, Ellice Murdoch ... 593
Allen, S. Busby ... 194
American Proctologic Society's Prize for Best Essay on any Disease of the Colon ... 141
American Red Cross, Marie Feodorovna Prize Competition ... 502
American Society of Medical Sociology ... 42
Anatomy, Descriptive and Applied ()(... 98
Anchoring the Caput Coli ... 350
Anesthetists, New York Society of ... 599
Angel, Edward B ... 334
Annual Meeting, 105th (E) ... 206
—— ——, House of Delegates Meeting ... 241
—— ——, Preliminary Program ... 143
—— ——, President's Address ... 207
—— ——, Scientific Session ... 247
Antitoxin in Asthma, Observations on the Use of .. 35
Anus, Rectum and Sigmoid, Diseases of (B) ... 310
Appendicitis During Pregnancy ... 166
Applied Anatomy (B) ... 202
April Meeting (E) ... 154
Arrangements, Report of Committee on ... 232
Arseno-Benzol, A Few Plain Truths About ... 271
Arteriosclerosis, as a Factor in Mental Diseases ... 342
——, *or the Cardiovascular Disease* ... 416
As Others See Us (E) ... 452
Auscultation of the Cough ... 475
Ayars, Emerson W ... 591
Bacterial Vaccines in Middle Ear Infections in Infants and Young Children, The Use of ... 174
Bacteriology, Text Book of (B) ... 309
Baar, Modern View of Syphilis and Its Treatment (B) ... 151
Baldwin, Charles Hume ... 585
Ballenger, Treatise on Diseases of Nose, Throat and Ear (B) ... 310
Bartley, Text Book of Medical and Pharmaceutical Chemistry (B) ... 204
Bassler, Diseases of the Stomach and Upper Alimentary Canal (B) ... 504
Beer, Edwin ... 425
Bendell, Joseph Lewi ... 404
Billington, Movable Kidney, Its Etiology, Diagrams, Pathology, etc. (B) ... 605
Bishop, Louis Faugeres ... 416
Bladder of the Prostate, The ... 447
Blood Pressure Recording in General Narcosis Observations on Grams of Agent to Kilos Body Weight ... 384
Blood Transfusion, Further Contribution to the Subject of, Direct Method ... 313
Book Reviews ... 49, 98, 151, 202, 253, 309, 353, 397, 503, 558, 604
Books Received ... 48, 98, 150, 201, 309, 353, 450, 503, 557, 604
Brettauer, Joseph ... 301
Bristow, Algernon T ... 369
Brooks, Harlow ... 386
Broun, Le Roy ... 469
Brown, Charles W. M.—Obituary ... 605
Browning, William ... 7
Brundage, Manual of Toxicology (B) ... 152
Buerger, Leo ... 455
Burns ... 351
Burr, Daniel S. ... 596
Burrows, Walter Field ... 573
Bush, Robert P ... 540
Campbell, William Francis ... 406
Cancer ... 468
——, *Latest Statistics in the United States and New York* ... 323
Cardiac Pain, Misinterpretation of ... 421
Cattell, International Clinics (B) ... 254, 310, 398, 504
Censors, Meeting of ... 248
Cerebellar Syndromes ... 507
Cerebral Compression ... 327
Chase, Walter B. ... 323, 498
Check in the Fight Against Quackery (E) ... 356
Christian Science and the Practice of Medicine ... 144
Chronic Appendicitis, a Critical Study of Post-Operative End Results ... 479
—— *Gastric Symptoms* ... 536
—— *Gastro-Intestinal Disorders in Older Children* ... 126
Clarke, Handbook of the Surgery of the Kidneys (B) ... 605
Clarke, T. Wood ... 290
Clinical Pathology in Practice (B) ... 354
Cocks, Edmund L., Resolutions on Death of ... 606
Colon, Some Observations on the ... 116
Colvin, Darwin—Obituary ... 100
Common Cold, The (E) ... 153
Common Sense in the Rearing of Children ... 382
Conant, James B ... 33
Contract Work, Report of Committee of Erie County Society ... 394
Coon, Clarence ... 116
Cottis, George W ... 536
Coughlin, Robert E ... 358
Council, Meetings of ... 43, 248, 393
——, Report of ... 222
Counsel, Report of ... 230
County Society Meetings ... 45, 89, 144, 198, 252, 306, 394, 502, 556, 602
Cramp, Walter C ... 341
Creveling, Joseph P ... 590
Cruickshank, William J ... 320
Currie, Thomas J ... 342
Cushny, Text Book of Pharmacology and Therapeutics (B) ... 504
Da Costa, Modern Surgery (B) ... 202
Davis, Applied Anatomy (B) ... 202
Deaths ... 50, 100, 152, 204, 254, 310, 354, 398, 450, 504, 558, 606
Deaths of Athletes and Fatalities in Athletic Games During 1910 ... 358
Deaver, Tennyson L ... 313
Deformity, Prevention of ... 564
Delegates to Association American Medical Colleges ... 44
Dermatological Observations of Interest to the General Practitioner ... 56
Dermatology, Principles and Practice of (B) ... 309
Developmental Defects of the Abdominal Viscera and Their Surgical Significance ... 406
De Vine, J. F ... 119
DeWolf, Harold ... 578
Dexter, Thurston H. ... 196
Diagnosis, Errors in ... 488
—— *By Means of the Cystoscope and Cysto-Urethroscope* ... 455
——, *Thoughts on* ... 134
—— *And Treatment of Some of the More Common Tropical Infections* ... 442
Diet and Dietetics, System of (B) ... 254

Diffuse Peritonitis, Treatment of 176
Diseases of the Hip or Spine, Some Conditions Simulating 588
District Branch Councillors, Report of 237-240
District Branches (E) 400
List of Meetings for 1911 394
Annual Meeting, Reports of First 449, 554
—— ——, —— Second .. 45, 449, 600
—— ——, —— Third 449, 601
—— ——, —— Fourth 601
—— ——, —— Fifth 88, 449, 602
—— ——, —— Sixth 450, 555
—— ——, —— Seventh 450, 602
—— ——, —— Eighth 450, 501
Division of Fees, Report of Committee Appointed by Erie County Society to Investigate the 93
Dixon, Thomas 483
Dock, Hookworm Disease (B) 152
Doctors, Is Anything the Matter with Them? 296
Downer, Mortimer B. 464
Drugs, The Strength of (E) 52
Duane, Alexander 104
Duodenal Ulcer, Diagnosis and Surgical Indication of 490
Ear, Nose and Throat, Medical and Surgical Diseases of the (B) 503
Earle, Diseases of the Anus, Rectum and Sigmoid (B) 310
Ectopic Gestation, Diagnosis of 162
Eden, Manual of Gynecology (B) 558
Eisendrath, Surgical Diagnosis (B) 202
Elements of the Science of Nutrition (B) 203
Ely, William S.—Obituary 100
Embolism and Thrombosis of the Mesenteric Vessels 182
Epidural Hemorrhage, Case of, Complicating Epilepsy with Rupture of Posterior Branch of Middle Meningeal Artery 341
Epilepsy, Diagnosis and Treatment of Certain Forms of 530
Epileptics, Care and Treatment of 18
Essay on Man 464
Etiology and Treatment of Certain Forms of Periodic Headaches 445
Exophthalmos, A Common Symptom in Chronic Bright's Disease 357
Experimental Medicine, Report of Committee on .. 225
Extraction of the Immature Cataractus Lens, Improved Method for 213
Extragenital Chancre 372
Extrauterine Pregnancy, Review of 100 Consecutive Operative Cases 160
Eye, Relation of the General Practitioner to Refraction of the 40
—, Treatise on Diseases of the (B) 353
Factors in Operative Technic and Management which Make for Success or Failure 498
Farrell, Thomas H. 40
Ferris, Albert Warren 413
Fibroid Uterus Didelphys 33
Fisher, Edward D. 478
Ford, Willis E. 131
Fordyce, John A. 261
Foreword from the President (E) 451
Fowler, Russell S. 215, 346, 350, 525
Fox, Howard 268
Fractures and Dislocations, Treatise on (B) 202
—— *of the Hip, Diagnosis of* 585
—— *in and about the Neck of the Thigh Bone.* 586
—— *of the Tarsal Bone* 522
Frost, Conway A. 382
Functional Albuminuria 185
Gage-Day, Mary 24
Gangrenous Appendicitis Secondary to Puerperal Septicæmia 392
Gant, Samuel Goodwin 401
Garvin, Albert Henry 475
Genesis, Manual for the Instruction of Children in Matters of Sex, for the Use of Parents, Teachers, etc. (B) 605
Gentle Art of Heckling Public Servants (E) 399
Gillette, Arthur Alfred 543
Gonorrhœa, The Reporting of, as a Method for Preventing Gonorrhœal Ophthalmia 337
Good Example (E) 3
—— —— Correspondence Relating to 88
Gordinier, Hermon C. 357
Gottheil, William S. 271
Government Service as a Career for a Young Physician (E) 255
Graham, Christopher 160
Gray's Anatomy (B) 98
Gregor, Gilbert D. 176
Gunshot Wounds of the Abdomen, with Report of a Case 494
—— —— *with Report of a Case of Liver, Stomach and Pancreas* 37
—— —— *of the Pregnant Uterus* 525
Gynecology, A Manual of (B) 558
Haase, Charles 351
Hachich, Le (B) 253
Hacker, C. W. Louis 527
Hardenbergh, Daniel B. 180
Hare, Modern Treatment (B) 203
Hartwig, Marcel 554
Heart and Aorta, Diseases of the (B) 397
Heathen Sect (E) 560
Heffron, John L. 519
Heimann, Walter James 347
Heroin Habituation, Two Cases of 386
Herter, Christian Archibald—Obituary 49
Hand Book of Practical Treatment (B) 151
High Blood Pressure, Significance and Therapy of. 482
Hirschfelder, Diseases of the Heart and Aorta (B). 397
Hiss, Text-Book of Bacteriology (B) 309
Hodgkin's Disease—Case History with Clinical Findings 125
Hoff, John Van Rensselaer 436
Hookworm Disease—Etiology, Pathology, Diagnosis, etc. (B) 152
Horder, Clinical Pathology in Practice (B) 354
Hospital for Insane at Ogdensburg, Location of ... 551
—— and its Relation to the Public and the Physician (E) 560
House of Delegates, 105th Annual Meeting 241
—— ——, Adjourned Meeting 246
Howe, Lucien 337
Howe, William A. 390
Humphrey, John Freeman 541
Hyde, Clarence Reginald 474
Hydrotherapeutic Treatment of Chronic Disease of the Heart 373
Ideal Medical Education for the General Practitioner and the Specialists 104
Increasing Interest in the Society, Report of Committee to Consider the Question of 233
Infant Feeding, Some Old Truths Worth Repeating 29
—— *Mortality in Greater New York* 60
Influenzal Arthritis 590
International Clinics (B) 254, 310, 398, 504
—— Commission on Control of Tuberculosis Among Domestic Animals 87
—— Medical Annual, E. B. Treat (B) 254
Intestinal Tuberculosis, Remarks on Treatment of. 401
Iodine Disinfection of Wounds 187
Jacobson, Nathan 53, 364
Jacobi Birthday Celebration, Report of Committee on 237
Jeliffe, Smith Ely 507
Jones, William B. 468
Kaple, Edward B. 488
Kelly, Practice of Medicine (B) 604
Kerr, Le Grand 514
Kidder, Walter H. 17
King, A Manual of Obstetrics (B) 151
Kirmisson, Handbook of Surgery of Children (B). 203
Lambert, Alexander 421
Le Breton, Prescott 588
Legal Liabiljity of Hospitals (E) 1
Legislation, Report of Committee on 223
Legislative Note—L. A. Ewald vs. Medical Society of the County of New York 249

Legislature, Bills Introduced into the.....97, 149, 199, 251, 307, 352
——, Committees for 1911..... 97
——, Members of the, for 1911..... 46
Leo-Wolf, Carl G. 29, 552
Lester, Frederick W. 140
Levitt, Marcus J. 492
Lintz, William 67
Lippincott's New Medical Dictionary (B)..... 151
Little, Seelye W. 485
Local Hemorrhagic Factor in the Causation of Uterine Hemorrhage 460
Longmore, John A..... 125
Lusk, Elements of the Science of Nutrition (B).. 203
Lytle, Claude C. 166
McGuire, Edgar R. 327
Macdonald, Willis Goss—Obituary..... 50
Malignant Tumors of the Kidneys..... 323
Mann, Physiology and Pathology of the Urine (B). 398
Matteawan State Hospital, Letter Regarding..... 304
Mayo, William J..... 4
Meany, Edward, Resolutions on Death of..... 606
Medical Education, Some Aspects of..... 514
—— Expert Testimony Again (E)..... 454
—— —— ——, *Plan to Improve*..... 485
—— —— ——, Report of Committee on 232
—— *Monstrosity* 499
—— *Onomatology* 352
—— ——, *Opposition Against Reform of, by a New Medical Dictionary* 496
—— and Pharmaceutical Chemistry, Text Book of (B) 204
—— *Profession Must Change its Tactics*..... 191
—— —— of the State and the Antivivisection Agitation (E)..... 205
—— Service Corporations (E)..... 2
Medical Society of the State of New York,
Annual Meeting 218-248
Meeting of the House of Delegates..... 241
Adjourned Meeting, House of Delegates.....246
Scientific Session 246
Report of President 218
—— Secretary 219
—— Treasurer 220
—— Council 222
—— Committee on Publication 222
—— —— Legislation 223
—— —— Experimental Medicine 225
—— —— Public Health..... 226
—— —— Counsel 230
—— —— Arrangements 232
—— —— Introduction of Medical Expert Testimony 232
—— —— Scientific Work..... 232
—— —— to Consider Question of Increasing Membership in the Society. 233
—— —— Consider Resolution on Nurses' Training Schools 234
—— —— on Celebration of Dr. Jacobi's Birthday.. 237
—— District Branch Councilors.....237-240
Medical Teaching and State Board of Medical Examiners 207
Medicine, History of (B)..... 99
Meltzer, Samuel J. 257
Meningitis in Children, Diagnosis and Treatment of. 290
Meningococcic Meningitis in a Three Months' Old Infant Successfully Treated with Flexner Serum 493
Merrill, George Van R..... 136
Meunier, Le Hachich (B)..... 253
Meyer, Willy 282
Mills, Theodore D..... 85
Mixell, H. R..... 386
Modern Surgery, General and Operative (B)..... 202
Modern Treatment (B)..... 203
Morris, Robert Tuttle 387
Moxom, Philip W. T..... 81
Munson, Edward 134
Musser, Hand Book of Practical Treatment (B) 151, 354
Mutual Helpfulness in the Conservation of Public Health 390
National Confederation of State Medical Boards.. 43
Neglected Points in Office Practice..... 129
Nellis, Irving O. 185
Nervous Woman, The 334
Neuberger, History of Medicine (B)..... 99
Neurasthenia, Is There Such a Disease?..... 7
New York Academy of Medicine vs. Fee Splitting (E) 507
New York Society of Anesthetists..... 599
Nieder, Charles F..... 187
Nose, Throat and Ear, Treatise on Diseases of (B). 310
Notable Birthday (E) 455
Nurse Anesthetist (E) 559
Nurses' Training Schools, Report of Committee to Consider Resolutions on 234
Obituaries:
Brown, Charles W. M..... 605
Cocks, Edmund L..... 606
Colvin, Darwin 100
Ely, William S. 100
Herter, Christian Archibald 49
Macdonald, Willis Goss 50
Meany, Edward 606
Patterson, Horace W. 152
Potter, William Warren..... 204
Obstetrical Forceps, Some Mistakes in the Using of. 79
Obstetrics, Manual of (B)..... 151
Olive Oil on Post-Operative Nausea..... 474
O'Meara, Mark 596
Open Treatment of Fractures (E)..... 506
Operations for Adherent Retrodisplaced Uteri by Shortening the Round Ligaments Through Inguinal Canal after Abdominal Section Through Transverse Incision 469
Ophthalmia Neonatorum, Some Popular Misconceptions Regarding 593
Opie, Diseases of the Pancreas (B)..... 353
Oppenheimer, Seymour 175
Orthopedic Surgery, A Treastise on (B)..... 99
Otitic Meningitis and Tempero-Spinoidal Abscess Operation, Recovery 175
Oxypathy 552
Ourselves (E) 101
Paine, Arthur H..... 38
Pancreas, Diseases of the (B)..... 353
Paralysis of the Upper Extremity Due to Nerve Injuries 364
Park, Pathogenic Micro-Organisms (B)..... 605
Parker, Howard R. 35
Pashayan, Nishan A..... 445
Pathogenic Micro-Organisms (B)..... 605
Pathological Relation of the Anesthetic to Surgical Procedure 569
Pathology, Principles of (B)..... 354
Patterson, Horace W.—Obituary..... 152
Peritonitis, Localized and General, Shall We Ask Nature to do Her Own Surgery?..... 111
Pharmacology and Therapeutics, Text Book of (B) 504
Phillips, Diseases of the Ear, Nose and Throat (B) 503
Physical and Chemical Laws in Medical Practice, Growing Importance of Understanding Them.. 543
Physician and the Mental Development of the Young 81
—— *and the Optician* 591
Physicians and the Legislature..... 540
Physiology and Pathology of the Urine (B)..... 398
Pilcher, James Taft 490
Plea for More Liberal Diet in Typhoid Fever..... 541
Polak, John Osborn 155
Pollitzer, Sigmund 259
Polyvalent Bacterial Vaccine, Deduction from Clinical Experience in the Use of..... 316
Post-Operative Complications and Early Muscular Movements, Causes of 573
Potter, William Warren—Obituary..... 204

Practical Treatment, Hand Book of (B).....151, 354
Practice of Medicine, Guide to Future Discrimination and Management of Disease (B)..... 604
Precancerous Stage 410
Preconceptional Intrauterine and Congenital Factors in the Production of Handicapped Children 514
President's Address to 105th Annual Meeting..... 207
—— —— First District Branch..... 85
—— —— Sixth District Branch..... 192
—— —— Medical Society of the County of Suffolk.....194
—— —— Medical Society of the County of Saratoga..... 546
—— —— Report to 105th Annual Meeting 218
—— —— Report of Progress from.. 563
Prostatic Hypertrophy Successfully Treated with X-Ray and High Frequency Currents, Two Cases of 303
Public Health, Report of Committee on..... 226
Publication, Report of Committee on..... 222
Puerperal Septic Infection, When Shall We Operate? 155
Purpura Hemorrhagica, Report of a Case..... 578
Pusey, Principles and Practice of Dermatology (B) 309
Rabies and Its Methods of Control in New York State 119
Reese, Frank De Witt..... 192
Report of Progress from the President (E)..... 563
Resseguie, Frederic J. 372
Retropharyngeal Abscess, Diagnosis and Treatment. 492
Rewards of the Obscure Physician..... 187
Robinson, William Josephus 191, 296
Rockwell, George H. 83
Rogers, Text Book on the Therapeutic Action of Light (B) 49
Rôle of the Physician in the Prevention of Insanity 413
—— *of the Smaller Hospital*..... 596
Rooney, James F. 482
Rose, Achilles 352, 498
Rowland, J. M. H..... 79
Sacral Suspension of the Uterus..... 76
Salvarsan: Action of Upon the Wassermann Reaction 268
——, *Analysis of the Clinical and Serological Results Obtained in Treatment of 175 Cases of Syphilis with*..... 261
——, *By-Effects of* 277
——, *Indications for, in Syphilis*..... 259
——, *Remarks on the Therapeutic Use of*....257
——, *Technique and Methods of Administration* 273
Sanitary Officers' Association, N. Y. State..... 600
Sanford, Merton Jarvis 187
Schorer, Vaccine and Serum Therapy (B)..... 353
Scientific Session, 105th Annual Meeting..... 246
Scientific Work, Report of Committee on..... 232
Seaborn, George F. 169
Section Officers for 1912 (E)..... 505
Secrent Division of Fees..... 301
—— —— ——, *Discussion of* 387
Secretary, Report of 219
Sexual Physiology and Hygiene, Education in (B). 254
Shanahan, William T. 18, 530
Sharp, Edward A..... 547
Sherwood, Walter A..... 172
Shipley, Alfred E. 60
Shook, S. M..... 442
Sill, E. Mather 174
Skinner, William W..... 27
Smith, Homer E. 213
Spingarn, Alexander 493
Stanton, Edwin MacDonald 479
Staphylococcus Pyemia Treated Exclusively with Vaccines 172
Stevenson, George E. P..... 129
Stimson, Treatise on Fractures and Dislocations (B) 202
Stomach, Diseases of the, and Duodenum from a Surgical Standpoint 4
Stomach and Upper Alimentary Canal, Diseases of the (B) 504
Stover, Charles 207
Sturmdorf, Arnold 460
Sullivan, Alford B..... 41
Surgery, Manual of (B)..... 503
—— of Childhood, Including Orthopedic Surgery (B) 397
—— of Children, Hand Book of (B)..... 203
—— of the Kidneys (B)..... 605
—— *of Neurasthenics* 131
Surgical Diagnosis (B) 202
—— *Dyspepsia* 320
Sutherland, System of Diet and Dietetics (B)..... 254
Swan, John Mumford 373, 578
Sweet Reasonableness of the Antis (E)..... 51
Swift, Homer F. 273
Syms, Parker 410
Syphilis, Modern View and Its Treatment (B).... 151
—— *of the Nervous System*..... 547
Tabes, Relationship of to General Paresis, are They the Same Disease, Differing Only in the Situation of the Lesion?..... 478
Taking the Cure at Carlsbad..... 380
Talmey, Genesis (B)..... 605
Therapeutic Action of Light, Text Book on (B)... 49
Therapy in Typhoid 196
Thompson, Edward C..... 182
Thomson, Manual of Surgery (B)..... 503
Thoracic Surgery at the German Hospital, New Operating Pavilion for..... 282
Totman, David M..... 586
Tousey, Sinclair 303
Townsend, Wisner Robinson 564
Toxicology, Manual of (B)..... 152
Toxins, Antitoxins, Antisera and Bacterial Vaccines, with Comparisons 169
Treasurer, Report of 220
Tuberculosis, County Hospital Care for..... 180
——, *Psychology of* 17
Tuberculous Peritonitis 53
Tumors of the Urinary Bladder, Concerning the Treatment of with the Oudin High Frequency Current 425
Typhoid Fever Resulting in Death from Unusual Complications with Masked Symptoms..... 41
Ulcerated Areas in Pyloric Regions, Exclusion of.. 346
Vaccination 596
—— *as a Prophytactic against Smallpox, Experience of the Army with*..... 436
Vaccine and Serum Therapy (B)..... 353
Value of the Eye in Diagnosis of Pathological Conditions 483
Van Cott, Joshua Marsden 316
Vander Bogert, Frank 126
Vander Veer, Edgar A. 494
Van Duyn, John 551
Varicose Ulcer and a Method of Treatment..... 140
Venereally Diseased, Supervision of the..... 136
Venereal Diseases, Shall They be Reported to the Board of Health? (E)..... 311
Venesection and Saline Infusion in Pneumonia.... 209
—— ——, Correspondence Regarding.. 304
Von Mikulicz Disease 67
Ward, William Douglas 111
Wassermann Reaction and the Physician..... 347
Waterman, James S..... 209
Watson, Harry G..... 380
Weeks, Treatise on the Eye (B)..... 353
Whitbeck, John F. W..... 447
White, J. Seward 546
Whitman, Treatise on Orthopedic Surgery (B)..... 99
Willard, Surgery of Childhood (B)..... 397
Winfield, James MacFarlane.....56, 276
Woolsey, William C.....384, 569
Wreck of the Federal Express (E)..... 355
Wright, Thew 37
Young, John Van Doren 76
Zacharie, Charles C. 392
Zenner, Education in Sexual Philosophy and Hygiene (B) 254

ORIGINAL ARTICLES

CHARLES FRANCIS ADAMS—Diagnosis of Ectopic Gestation 162
HENRY ADSIT—Malignant Tumors of the Kidney 323
FRED HOUDLETT ALBEE—Fracture of the Tarsal Bone 522
ELLICE MURDOCH ALGER—Some Popular Misconceptions regarding Ophthalmia Neonatorum 593
S. BUSBY ALLEN—Address of President of Suffolk County Society 194
EDWARD B. ANGELL—The Nervous Woman 334
EMERSON W. AYARS—The Physician and the Optician 591
CHARLES HUME BALDWIN—Diagnosis of Fractures of the Hip 585
EDWIN BEER—Treatment of Tumors of the Urinary Bladder with Oudin High-Frequency Current 425
JOSEPH LEWI BENDELL—Gunshot Wounds of the Abdomen, with Report of a Case 494
LOUIS FANGERES BISHOP—Arteriosclerosis; or, "The Cardiovascular Disease" 416
JOSEPH BRETTAUER—The Secret Division of Fees 301
ALGERNON THOMAS BRISTOW—Acute Unilateral Hematogenous Septic Infection of the Kidney .. 369
HARLOW BROOKS—Two Cases of Heroin Habituation 386
LE ROY BROWN—Operations for Adherent Retro-Displaced Uteri by Shortening the Round Ligaments Through the Inguinal Canal after Abdominal Section Through the Transverse Incision 469
WILLIAM BROWNING—Is There Such a Disease as Neurasthenia? 7
LEO BUERGER—Certain Phases of Diagnosis by Means of the Cystoscope and Cysto-Urethroscope 455
DANIEL S. BURR—Vaccination 596
WATERS FIELD BURROWS—Causes of Post Operative Complications and Early Voluntary Muscular Movements 573
ROBERT P. BUSH—Physicians and the Legislature 540
WILLIAM FRANCIS CAMPBELL—Developmental Defects of the Abdominal Viscera and Their Surgical Significance 406
WALTER B. CHASE—Latest Statistics on Cancer in the United States and in New York 323
—— —— Factors in Operative Technic and Management which Made for Success or Failure .. 498
T. WOOD CLARKE—The Diagnosis and Treatment of Meningitis in Children 290
JAMES B. CONANT—Fibroid Uterus Didelphys 33
CLARENCE E. COON—Some Observations on the Colon 116
GEORGE W. COTTIS—Chronic Gastric Symptoms 536
ROBERT E. COUGHLIN—Deaths of Athletes and Fatalities in Athletic Games During the Year 1910 .. 358
WALTER C. CRAMP—A Case of Epidural Hemorrhage Complicating Epilepsy with Rupture of Posterior Branch of the Middle Meningeal Artery—Recovery 341
JOSEPH P. CREVELING—Influenzal Arthritis 590
WILLIAM J. CRUIKSHANK—Surgical Dyspepsia 320
THOMAS J. CURRIE—Arteriosclerosis as a Factor in Mental Diseases 342
TENNYSON L. DEAVER—A Contribution to the Subject of Blood Transfusion. Direct Method 313
J. F. DE VINE—Rabies and Its Method of Control in New York State 119
HAROLD DE WOLF—Report of a Case of Purpura Hemorrhagica 578
THUDSTON HOPKINS DEXTER—Therapy in Typhoid 196
THOMAS DIXON—The Value of the Eye in Diagnosis of Pathological Conditions 483
MORTIMER B. DOWNER—Essay on Man 464
ALEXANDER DUANE—The Ideal Medical Education for the General Practitioner 104
THOMAS HENRY FARRELL—The Relation of the General Practitioner to Refraction of the Eye 40
ALBERT WARREN FERRIS—The Role of Physicians in the Prevention of Insanity 413
EDWARD D. FISHER—The Relationship of Tabes to General Paresis 478
WILLIS E. FORD—Surgery of Neurasthenics 131
JOHN ADDISON FORDYCE—An Analysis of the Clinical and Serological Results Obtained in the Treatment of One Hundred and Seventy-five Cases of Syphilis with Salvarsan 261
RUSSELL S. FOWLER—Anchoring the Caput Coli 350
—— —— Early Functional Danger Signals in Abdominal Disease 215
—— —— Exclusion of Ulcerated Areas in the Pyloric Region 346
—— —— Gunshot Wounds of the Pregnant Uterus 525
HOWARD FOX—The Action of Salvarsan upon the Wassermann Reaction 268
CONWAY A. FROST—Common Sense in the Rearing of Children 382
MARY GAGE-DAY—The Importance of an Early Diagnosis in Abnormal Pelvic Conditions 24
SAMUEL GOODWIN GANT—Remarks on the Treatment of Intestinal Tuberculosis 401
ALBERT HENRY GARVIN—Auscultation of the Cough 475
ARTHUR ALFRED GILLETTE—The Growing Importance of Understanding Physical and Chemical Laws in Medical Practice 543
HERMAN C. GORDINIER—Exophthalmos, A Common Symptom of Chronic Bright's Disease 357
WILLIAM S. GOTTHEIL—A Few Plain Truths About Arseno-Benzol 271
CHRISTOPHER GRAHAM—Extrauterine Pregnancy. Review of 100 Consecutive Operative Cases 162
GILBERT DAVID GREGOR—Treatment of Diffuse Peritonitis 176
CHARLES HAASE—Burns 351
CHRISTIAN WILLIAM LOUIS HACKER—The Conservative Treatment of Acute Infections 527
DANIEL BAILEY HARDENBURGH—County Hospital Care for the Tuberculous 180
MARCELL HARTWIG—Acute Unilateral Hæmatogenous Infection of the Kidney 554
JOHN L. HEFFRON—Some Aspects of Medical Education 510
WALTER J. HEIMANN—The Wassermann Reaction and the Physician 347
JOHN VAN R. HOFF—Experience of the Army with Vaccination as a Prophylactic Against Smallpox 436
LUCIEN HOWE—The Reporting of Gonorrhœa as a Method for Preventing Gonorrhœal Ophthalmia. 337
WILLIAM A. HOWE—Mutual Helpfulness in the Conservation of Public Health 390
JOHN FREEMAN HUMPHREY—A Plea for a More Liberal Diet in Typhoid Fever 541
CLARENCE REGINALD HYDE—Olive Oil in Post-Operative Nausea 474
NATHAN JACOBSON—Tuberculous Peritonitis 53
—— —— Paralysis of the Upper Extremity Due to Nerve Injuries 364
SMITH ELY JELLIFFE—Cerebellar Syndromes 507
WILLIAM B. JONES—Cancer 468
EDWARD B. KAPLE—Errors in Diagnosis 488
LE GRAND KERR—Preconceptional, Intrauterine, and Congenital Factors in the Production of Handicapped Children 514

WALTER H. KIDDER—The Psychology of Tuberculosis 1
ALEXANDER LAMBERT—The Misinterpretation of Cardiac Pain 421
PRESCOTT LE BRETON—Some Conditions Simulating Diseases of the Hip or Spine 588
CARL G. LEO-WOLF—Oxypathy 552
—— —— Some Old Truths about Infant Feeding Worth Repeating 29
FREDERICK W. LESTER—Varicose Ulcer and a Method of Treatment 140
MARCUS J. LEVITT—Retropharyngeal Abscess—Its Diagnosis and Treatment 492
WILLIAM LINTZ—Von Mikulicz Disease 67
SEELYE W. LITTLE—Medical Expert Testimony 485
CLAUDE C. LYTLE—Appendicitis During Pregnancy 166
JOHN A. LONGMORE—A Case of Hodskins Disease, History with Clinical Findings 125
EDGAR R. McGUIRE—Cerebral Compression 327
WILLIAM J. MAYO—Diseases of the Stomach and Duodenum from a Surgical Standpoint 4
GEORGE VAN RENSSELAER MERRILL—Supervision of the Venereally Diseased 136
WILLY MEYER—The New Operating Pavilion for Thoracic Surgery at the German Hospital 282
SAMUEL J. MELTZER—Remarks on the Therapeutics of Salvarsan 257
THEODORE D. MILLS—President's Address 85
H. R. MIXELL—Two Cases of Heroin Habituation 386
ROBERT TUTTLE MORRIS—Secret Division of Fees 387
PHILIP WILFRED TRAVIS MOXOM—The Physician and the Mental Development of the Young 81
EDWARD MUNSON—Thoughts on Diagnosis 134
IRVING O. NELLIS—Functional Albuminuria 185
CHARLES F. NIEDER—Iodine Disinfection of Wounds 187
MARK O'MEARA—The Role of the Smaller Hospital 596
SEYMOUR OPPENHEIMER—A Case of Otitic Meningitis and Temepro-Sphenoidal Abscess 175
ARTHUR HILTON PAINE—Importance of Recognition and Treatment of Adenoids 38
HOWARD R. PARKER—Observations on the Use of Antitoxin in Asthma 35
NISHAN A. PASHAYAN—The Etiology and Treatment of Certain Forms of Periodical Headaches 445
JAMES TAFT PILCHER—The Diagnosis and Surgical Indications of Duodenal Ulcer 490
JOHN OSBORN POLAK—When Shall We Operate in Puerperal Septic Infection? 155
SIGMUND POLLITZER—The Indications for Salvarsan in Syphilis 259
FRANK DE WITT REESE—Address of President of Sixth District Branch 192
FREDERICK J. RESSEGUIE—Extragenital Chancre 372
WILLIAM JOSEPHUS ROBINSON—Is Anything the Matter with the Doctors? 296
—— —— —— The Medical Profession Must Change Its Tactics 191
GEORGE H. ROCKWELL—Recognition and Treatment of Acute Mastoiditis 83
JAMES FRANCIS ROONEY—The Significance and Therapy of High Blood Pressure 482
JAMES M. H. ROWLAND—Some Mistakes in Use of Obstetrical Forceps 79
MERTON JARVIS SANFORD—The Rewards of the Obscure Physician 187
GEORGE F. SEABORN—Toxins, Antitoxins, Antisera and Bacterial Vaccines, with Comparisons 169
WILLIAM T. SHANAHAN—The Care and Treatment of Epileptics 18
—— —— The Diagnosis and Treatment of Certain Forms of Epilepsy 530
EDWARD A. SHARP—Syphilis of the Nervous System 547
WALTER AIKMAN SHERWOOD—True Staphylococcus Pyemia Treated Exclusively with Vaccines 172
ALFRED E. SHIPLEY—Infant Mortality in Greater New York 60
S. M. SHOOK—Diagnosis and Treatment of Some of the More Common Tropical Infections 442
ELISHA M. SILL—Bacterial Vaccines in Middle Ear Infections in Infants and Young Children 174
WILLIAM W. SKINNER—The Vein Sign in Abdominal Inflammations 27
HOMER ERASTUS SMITH—Improved Method for Extraction of the Immature Cataractous Lens 213
ALEXANDER SPINGARN—Case of Meningococcic Meningitis in a Three-months-old Infant Successfully Treated with the Flexner Serum 493
EDWIN MacDONALD STANTON—Chronic Appendicitis—Study of Post-Operative End Results 479
GEORGE E. STEVENSON—Some Neglected Points in Office Practice 129
CHARLES STOVER—Medical Teaching and State Boards of Medical Examiners 207
ARNOLD STURMDORF—Local Hæmatological Factor in the Causation of Uterine Hemorrhage 460
ALFORD B. SULLIVAN—Typhoid Fever Resulting in Death from Unusual Complication 41
JOHN M. SWAN—The Hydrotherapeutic Treatment of Chronic Disease of the Heart 373
—— Report of a Case of Purpura Hemorrhagica 578
HOMER FORDYCE SWIFT—Technique and Methods of Administration of Salvarsan 273
PARKER SYMS—The Precancerous Stage 410
EDWARD CAMERON THOMPSON—Embolism and Thrombosis of the Mesenteric Vessels 182
DAVID M. TOTMAN—Treatment of Fractures in and about the Neck of the Thigh Bone 586
SINCLAIR TOUSEY—Prostatic Hypertrophy Treated with the X-Ray and High Frequency Currents 303
WISNER ROBINSON TOWNSEND—The Prevention of Deformities 564
JOSHUA MARSDEN VAN COTT—Clinical Experience in the Use of a Polyvalent Bacterial Vaccine 316
FRANK VANDER BOGERT—Chronic Gastric Intestinal Disorders in Older Children 126
EDGAR ALBERT VANDER VEER—Gunshot Wounds of the Abdomen, with Report of a Case 494
JOHN VAN DUYN—The Location of the Hospital for the Insane, at Ogdensburg 551
WILLIAM DOUGLAS WARD—Localized and General Peritonitis 111
JAMES SEARS WATERMAN—Venesection and Saline Infusion in Pneumonia 209
HARRY G. WATSON—Taking the Cure at Carlsbad 380
JOHN F. W. WHITBECK—The Bladder and the Prostate 447
J. SEWARD WHITE—Our Society 546
JAMES McFARLANE WINFIELD—The By-Effects of Salvarsan 276
—— —— —— Dermatological Observations of Interest to the General Practitioner 56
WILLIAM C. WOOLSEY—Pathological Relation of the Anesthetic to Surgical Procedure 569
—— —— Regarding Blood Pressure in General Narcosis Observations on Grams of Agent to Kilos Body Weight 384
THEW WRIGHT—Gunshot Wounds of the Abdomen, with Report of a Case of Wounds of the Liver, Stomach and Pancreas, with Operation and Recovery 37
JOHN VAN DOREN YOUNG—Sacral Suspension of the Uterus 76
CHARLES C. ZACHARIE—Gangrenous Appendicitis Secondary to Puerperal 392

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